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ABSTRACT

This manual was developed for use by ERIC personnel involved in the two and a half year Vocabulary Improvement Project (VIP) which culminated in the publication of the 1980 completely revised edition of the Thesaurus of ERIC Descriptors. Based on the idea that indexing is not about description of documents but about retrieval, it applies criteria derived from the capabilities of manual and online retrieval to examples of thesaural problems. Project procedures and principles for vocabulary improvement are presented in the first two sections, followed by detailed discussions of the functions and treatment of main terms, scope notes, and use/use for references. Suggestions and examples are included, and a glossary of terms is provided. Included, also, is the article "Related Term Guidelines" by Jim Houston and Meg Block, written in March 1979 as an addendum to the manual. (FAA)

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VIP Manual

Guidelines and Procedures for ERIC Vocabulary Improvement

Barbara Booth, Coordinator

ERIC Vocabulary Improvement Project

December 1978

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ERIC®

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PREFACE

This manual is based on the idea that indexing is not about description of documents but about retrieval. It applies criteria derived from the capabilities and limitations of manual and online retrieval to examples of thesaural problems.

The principles, decision criteria, and remedial procedures outlined here are offered for your consideration and guidance. They are merely suggestive of the many issues and problems in vocabulary improvement. Each case you face will be different. But they may help you bring your own thinking and experience to bear in tighter focus. They will also provide a common referent which all can cite in justifying change recommendations.

There is little in the literature to guide us either practically or theoretically in the Vocabulary Improvement Project. Much herein is my own thinking, and as such is open to debate. I welcome your additions, corrections, and revisions for the Addenda.

Barbara Booth
ERIC Clearinghouse
for Junior Colleges

SECTION 1: VIP PROCEDURES

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Section 1: VIP PROCEDURES

1.1 GENERAL PROCEDURES

1.1.1 Production Schedule

Each clearinghouse is expected to devote a minimum of ten hours per week to the Vocabulary Improvement Project. These hours should include time spent by the designated clearinghouse vocabulary coordinator and other clearinghouse personnel in actual production activities: lexicographic analysis and research, preparation of draft DJF's, communication with other clearinghouses or the Lexicographer, organization and maintenance of records and files, etc. Time spent by clerical assistants in typing, xeroxing, addressing envelopes, etc., may be credited to system maintenance or VIP budgets but should not be counted toward the ten hours. Meetings with abstractor/indexers and user services staff should also not be counted; obviously, a one hour meeting of ten people to obtain their opinions on proposed actions would wipe out a week's production time. However, the time spent by the vocabulary coordinator in consulting with subject and retrieval experts, including clearinghouse staff, should be counted.

The project plan allocates a total of 440 hours for clearinghouse production, ending September 14, 1979. Allowance has been made for two weeks' downtime--one week over the holidays and another during National Technical Meeting week. Vocabulary coordinators will be expected to make up time lost to vacations, illness, attendance at conferences, etc.

Arrangements should be made well in advance of anticipated absences (of more than a few weeks duration) by preparing another staff member to continue the work. It is unrealistic to expect that large amounts of time can be made up. In fact, in those clearinghouses where only one person is involved with the project, vocabulary coordinators are strongly urged to familiarize another staff member with project procedures and the nature of the assignment, and to keep that person informed of the progress made. In an emergency, someone will than be able to step in and provide backup assistance.

1.1.2 Production Norms

No production norms have been established for the project. Because of the range of difficulty represented among assigned descriptors, no set number of DJF's can be required per week or month. However, each clearinghouse is expected to complete all of its first priority actions and a major proportion of its second priority actions. Assuming that approximately 65% of each assignment requires some action, completion of work on 50% of all terms assigned is a reasonable minimum expectation.

As the clearinghouse VIP Log represents the planned sequence of work, each clearinghouse should map out a projected schedule and note on the Log anticipated dates of completion for various parts of the assignment. This can serve as a yardstick against which progress can be measured.

It is understood that clearinghouse production will be uneven; in one week you will produce a flurry of DJF's, and the very next week get bogged down in a sticky problem that takes two more weeks to unravel. No questions will be asked unless several weeks go by with no sign of activity.

It is also highly probable that at some point a cluster of terms--even a seemingly harmless cluster--will turn out to be a maze of inextricable convolutions. When you find yourself going over the same ground again and again, yell for help. Ask the advice of the Lexicographer, the Project Coordinator, or another clearinghouse with scope interests in the problem terms. A fresh eye may see the solution. Often just talking through the problem with another knowledgeable person will help you arrive at a decision.

In general, speak up at the first sign that you are getting into trouble in terms of the project schedule. Inform your Director, the VIP Monitor, and the Project Coordinator. No one will bite you (unless, of course, you simply haven't been putting in the expected hours). But no one can help you either, if you just sit there, silently, falling further and further behind.

1.1.3 Reporting

On the last working day of each month, vocabulary coordinators should send copies of their VIP Log to the Project Coordinator and the VIP Monitor. Handwritten entries are perfectly fine; the intent is to make you feel accountable, and to provide Central ERIC with a broad overview of project activity, in the simplest possible manner. In a project of this size and complexity some management controls are necessary if a fairly consistent level of effort is to be attained across clearinghouses.

At mid-point in the production period a short narrative statement of general progress and future projections will be requested.

1.1.4 Responsibilities of Vocabulary Coordinators

In cases where several staff members are involved in the project, the designated clearinghouse vocabulary coordinator is responsible for the following:

(1) Appropriate orientation and training of all participants, including--

- o careful study of Section 8 of the *ERIC Processing Manual* and the *Rules for Thesaurus Preparation*;
- o review of handouts prepared for the first national meeting and substantive memoranda received during Phase I;
- o review of user correspondence;
- o careful study of this manual.

(2) Routing of all project-related memos, instructions, etc., received in future to all participants.

(3) Supervision of all activities to ensure that proper procedures are followed and sufficient depth of analysis is carried out.

(4) Review, approval, and submission of all DJF's.

(5) Communication with other system components.

(6) Reporting, maintenance of the Log, and general coordination of project activities.

1.2 ORGANIZATION OF ASSIGNMENTS

A tight project schedule demands the highest efficiency and productivity. These are best achieved if all aspects of the work are well organized from the start. A careful analysis and grouping of the assigned descriptors and a sequence of work designed to maximize logical relationships, albeit within the constraints demanded by priorities, are essential. The memo "Getting Organized", dated 9/15/78, provides suggestions for analysis of assignments.

Project tools and materials should be brought together and arranged for easy accessibility. These include Descriptor Review Forms, project DJF's, assignment lists for other clearinghouses, dictionaries and thesauri (including the published edition of our own thesaurus), selected cumulative indexes for *RIE* and *CIJE* or of *Educational Documents Index*, the *VIP Rotated*

Display, the *VIP Hierarchical Display*, etc. This is a lot of material, and you will be using it all concurrently; adequate shelving and a good working surface, preferably away from your regular desk, will make a difficult task much easier.

1.3 SEQUENCE OF WORK

Your assigned descriptors should be grouped into broad clusters of related terms, sub-divided (as necessary) into smaller working units.

Approach the clusters in a sequence determined by the seriousness of the problems and/or number of needed actions they contain, modifying strict priority order to take advantage of logical relationships. The ideal order of work would be one in which each completed action facilitates work on the next descriptor or descriptors. Usually this ideal order would be from the broadest to the narrowest level in each cluster.

Try to strike a balance that is both efficient and ensures completion of priority actions.

As a general rule you should work on the first priority actions within a cluster, then move on to the next cluster, until all first priority actions are completed. Second priority actions should be worked on as time permits, following the urgent tasks. However, in many cases you will find it helpful to deviate from this order. For instance, drafting a scope note for a BT, though it is not urgently required, will assist you in writing the urgently required scope notes for its NT's. You would have to do the analysis for the BT to derive its meaning in any case; since the difficult part has been done, you might as well complete the action. Conversely, work on a BT may require you to check the postings on its NT to make sure the scope note fits the meaning of the hierarchy. In this case, preparation of a scope note for the NT may take no more additional time than a few minutes.

In most cases you will be working on second priority actions near the end of the project, going back to clusters worked on previously. For this work, and for other reasons as well, do not discard the Descriptor Review Forms, notes, printouts, or other working materials for terms you have completed. They will assist you on second priority actions, and may also be needed to appeal a denied action, to resolve a conflict that appears later, to respond to an objection by another clearinghouse, etc.

Depending on your assignment, you may reach a point in your work when the time remaining appears adequate for both first and second priority actions. At that point you should integrate the work, and approach it in the most logical and efficient order.

If you complete your assignment well ahead of schedule, you are expected to go on to the descriptors judged "OK as is" as they appeared in the Thesaurus, to make sure they really are OK as used in indexing. A check of sample postings and a quick look at the rotated and hierarchical displays should suffice.

If you still have some time left, then for goodness sakes call Dorothy Bloch at EC, or some other clearinghouse with a labor intensive assignment, and ask if you can help out.

1.4 RESEARCH PROCEDURES

This section is limited to general procedures. Procedures for specific types of actions, and steps suggested for particular problem situations, can be found in the appropriate section of the manual.

1.4.1. Cluster Analysis

Begin work on each cluster by analyzing it as a whole and by gathering basic information about the terms it contains. For the purpose of initial analysis, include in the "cluster" any descriptors substantially impacting it--particularly BT's at several higher levels and any descriptors intervening hierarchically between terms in your assignment--that are assigned to other clearinghouses. For instance, if you are assigned PROFESSIONAL PERSONNEL and several of its NT's, you must analyze the cluster with an eye on the BT PERSONNEL whether it is assigned to you or not.

Your clusters will most likely be based on either hierarchical relationships or RT relationships (e.g., the "family" terms, the "community" terms, or similar clusters in which the component descriptors come from different hierarchies).

The *VIP Two-Way Hierarchical Display* provides a useful tool for analyzing hierarchically-based clusters. The *VIP Rotated Display*, while not ideal, probably provides the nearest equivalent for RT-based clusters.

Whatever list or tool is used, you will need to begin by building as complete a picture of the cluster as possible. At a minimum, this involves gathering and recording the following information in such a way that it can be viewed together:

- Instances of existing scope notes for terms in the cluster, for BT's and NT's of terms in the cluster that are assigned elsewhere, for component words of terms in the cluster, and for any other descriptor also containing the component words.

Not only will reference to these existing scope notes allow you to "borrow" language in your own scope note writing, but it is absolutely essential that each of them be examined carefully so that conceptual conflicts are avoided.

> *Suggestion*: make copies of all the scope notes (from the most recent edition of the *Play Thesaurus*) and paste them up on a big sheet of paper along with copies of hierarchical or rotated displays that help show the relationships.

- Projected actions on terms assigned to other clearinghouses that impact substantially on the cluster. It is imperative that you know in advance about potential deletes or hierarchical shifts. The *VIP Two-Way Hierarchical Display* will alert you to call the other clearinghouse to find out what action is intended.

As you gather and record the information (whether through some system of notation or, in the case of scope notes, by making copies of them right then), make notes on relationships you perceive, ideas that occur to you on steps to take, problems that should be investigated, etc. Don't make them so cryptic that a month or so later you won't have the foggiest notion of what they mean.

1.4.2 Descriptor Analysis

Research and action on particular descriptors cannot take place in linear fashion, one term at a time. All the basic legwork and analysis for the entire working unit should be finished before any final decisions are made. A "working unit" will typically include a BT and its NT's, two near-synonyms that must be distinguished, noun/verb pairs (BUDGETS, BUDGETING), etc. Clusters and working units may sometimes coincide.

While not all actions will require every step listed below, in-depth research for major actions would include these analyses.

(1) Review the descriptor display and the comments on the Descriptor Review Forms.

(2) Review the statistical usage data provided on the forms to assess the overall frequency of use and any variance in use as major/minor, by file, or over time periods. If any trend or direction of use is noted, find out why.

(3) Assess the overall consistency or degree of inconsistency

of use of the descriptor in indexing. This can be done broadly, and is perhaps most easily done by examining titles of documents and articles posted to the descriptor, as described in Section 1.4.4.

(4) Check the *VIP Rotated Display* under each of the substantive words in the descriptor and under substantive words in its UF's. Try to identify conceptual conflicts, especially as revealed through USE references going off in different directions. Learn the "terminological terrain."

(5) Verify the appropriateness of the hierarchical assignment through the *Two-Way Hierarchical Display*. In some cases this may require quick postings checks up and down the hierarchy.

(6) For scope note writing, consult appropriate dictionaires, thesauri, and other authorities. (See Section 1.4.3.)

Additional procedures for specific types of actions or problems are suggested in the pertinent section of the manual. For on-line statistical tests, see Section 1.4.5.

1.4.3 Authorities

The primary authority for writing scope notes on previously established descriptors must be the literature tagged by those descriptors. That is, the meaning of a descriptor is whatever the postings show that it means, despite what dictionaries may say. For instance, if the postings on two terms are indistinguishable, then *for the purposes of the ERIC system* they are synonyms even if clear distinctions are made in dictionaries.

Dictionaries, thesauri, and other authorities must be consulted routinely in scope note writing for two reasons. First, they provide a baseline against which the inclusiveness or exclusiveness of your conceptualization of the descriptor's meaning may be judged. It is very important that a scope note not be limited to an application of a concept in a specific context, even if the postings are primarily limited to that application. DROPOUTS is a good example of this. By providing a range of possible meanings, connotations, etc., dictionaries allow you to more explicitly define (and refine) the concept represented by the descriptor through a process of selection and rejection. Second, dictionaries are indispensible tools for the wording of scope notes. As we say to educational practitioners, don't re-invent the wheel when you can borrow or adapt the work done by others.

Authorities for scope note writing, in order of importance, are:

- the literature posted to the target descriptor
- other ERIC scope notes, including
  - scope notes in the same hierarchy
  - scope notes for component concepts
  - scope notes for closely related terms (as defining areas excluded from the scope of the target descriptor)
- specialized dictionaries, thesauri, etc.
- subject experts, including clearinghouse staff, advisory board members, and other specialists
- general dictionaries and thesauri

Dictionaries, Encyclopedias, and Other Sources of Definitions

The document *Principal Authorities...Used in ERIC Lexicographic Analysis* was distributed at the regional vocabulary meetings. This document lists both general and specialized dictionaries and thesauri, but the list is not exhaustive. Many other glossaries and other sources of definitions are available. Encyclopedias, for example, often begin articles by providing a definition or discussion of the scope of a topic. The *Encyclopedia of Education* (Macmillan, 1971, 10 vols.) is a basic resource. The new *International Encyclopedia of Higher Education* (Jossey-Bass, 1977, 10 vols.) has a 300 page Glossary.

Handbooks such as the *Handbook of Political Psychology*, *Handbook of Speech Pathology and Audiology*, *Handbook of Personality Theory and Research*, etc., often serve as mini-encyclopedias of the disciplinary area. Landmark texts, such as the two-volume *Issues in the Classification of Children*, provide equally rich resources.

Review and state-of-the-art series are excellent sources for discussions of changing terminology and definitions of emerging concepts. For instance, a recent volume of *Current Topics in Clinical and Community Psychology* devotes a whole section to the definition of "competence"; coincidently, so does the 1978 volume of *Annual Review of Psychology*. While the annual series *Review of Research in Education* appears to have folded (?), the quarterly *Review of Educational Research* is still going strong: the latest issue includes, among other things, a definition of "criterion referenced measurement" (as distinct from "criterion referenced testing").

Certain sources of definitions are more

authoritative, or demand more consideration, than others. Among these are:

- definitions included in federal legislation
- definitions issued by federal agencies for standardized reporting (see indexes to OE publications)
- glossaries and dictionaries published by prestigious national commissions, councils, and professional associations, such as those issued by the National Association of Student Personnel Administrators, the American Association of Collegiate Registrars and Admissions Officers, etc.
- definitions offered by the person(s) most closely associated with a concept, such as Bloom on behavioral objectives or mastery learning, Rosenthal on teacher expectation, Bruner on discovery learning, etc. Do not, however, follow the model provided in the scope note for CLASSICAL CONDITIONING.)

The ERIC Database

Many of these authoritative glossaries and definitions can be located through database searches. Author and Institutional Source searches (source codes, e.g. BBB21509, on BRS) can be coordinated with appropriate descriptors or free-text terms in abstracts, e.g., define$1 or definition$1 on BRS.

Authors frequently begin a discussion by defining their terms of reference. A great many documents also include appended glossaries. While RIE searches are convenient where an extensive journal collection is not available, the journal literature is the best source of definitions for emerging concepts and for tracing terminological changes. Subject searches can be run at a specific level when working on particular terms, or can be run at a broad level to develop a basic list of resources or when a specific search fails.

On BRS:

specific MANAGEMENT-BY-OBJECTIVES AND DEFINITIONS.MJ,MN.

broad EDUCATIONAL-FINANCE.MJ. AND (DICTIONARIES OR GLOSSARIES OR DEFINITIONS OR VOCABULARY).MJ,MN.

Materials that compare or distinguish terms can be found:

1_: (COMPETENCY ADJ BASED ADJ EDUCATION).TI,AB.
2_: PERFORMANCE-BASED-EDUCATION
3_: 1 and 2
4_: (DEFINITIONS OR VOCABULARY).MJ,MN.

5_: DEFINE$1 OR DEFINITION$1.AB.
6_: 4 OR 5
7_: 3 AND 6

Minimum Requirements for Authorities

The preparation of scope notes for descriptors with long histories of use differs in some respects from preparing scope notes for new descriptors. In the latter case, it is necessary to project the possible future applications of the concept in different contexts--to move beyond the applications found in existing documents and articles to consider the potential development, expansion, or refinement of the concept in future years. Dictionaries and other authorities serve as checks against unnecessary restriction of a descriptor's scope that might inhibit future possible application of the concept.

As many as twelve years of indexing use, however, provides objective evidence of the range of material thought appropriate to a given concept, at least within the disciplines represented in the database and the years considered. If a scope note is conceived as a guide to what will be retrieved by a descriptor, the existing postings must constitute the primary authority for scope note writing.

If dictionary definitions are thus less crucial to scope note writing in the Vocabulary Improvement Project, they are still necessary. Our examination of postings will be limited to samples. Surrogates--titles and resumes--will be examined, not the source material. Synthesis, interpretation, and verbalization of conceptual scope from the evidence will be facilitated by the benchmarks other authorities provide.

A minimum of three authorities must be cited for each scope note prepared. More are desirable. It is most strongly recommended that wherever a number of subject-specialized authorities exist, i.e., those directly relevant to the subject area or topic at hand, all should be consulted. The authorities listed on the back of the DJF need not justify, support, or have contributed elements to the scope note proposed. Your check marks merely inform the Lexicographer that you have taken the particular authority into consideration.

Where applicable, one of the authorities must be the NCES' *Combined Glossary: Terms and Definitions from the State Educational Records and Reports Series* (ED 106 923). The second mandatory authority (for educational terms) is the 3rd edition of Good's *Dictionary of Education*.

Other Functions

Controlled vocabularies will frequently be more useful for other vocabulary functions than in scope note writing. These include providing justification and precedent for the following actions.

- Merger (or Retention) of Near-Synonyms

  Strong support for merger of two descriptors is gained when it can be shown that another indexing system views the concepts as synonymous for the purposes of retrieval. Such evidence is most convincing when it comes from an educational indexing system; it loses strength as the focus of the indexing system moves further away. Thus the evidence of "see" references in *Education Index* and of UF's in the European educational thesauri would carry the greatest weight; Library of Congress subject headings or references and the *Psychological Abstracts* thesaurus would be at one remove; subject headings and descriptors used in other social science indexing systems would be at the second remove; and evidence from the sciences and humanities would be less useful.

- Hierarchical Shifts

  Thesauri structured on principles similar to our own can provide justification for shifts in hierarchical assignments. Caution is warranted here; such justification is most reliable when the thesaurus focuses on the discipline represented by the hierarchy in question (mathematics, literature, etc.).

1.4.4 Analysis of Postings

Postings must be examined to determine the consistency or degree of inconsistency of use of descriptors in indexing. This can be done broadly, and is perhaps most easily done by examining titles of documents and articles posted to the terms. For well-posted descriptors, the analysis may be restricted to instances of use as a major; the meaning and use of the descriptor will be most readily apparent in materials where the concept appears prominantly.

You may scan titles online, scan cumulative indexes of *RIE* and *CIJE*, or scan volumes of *Educational Documents Index*. Select samples from different points in time: an early year (1969 or 1970), a middle year (1973 or 1974), and a recent year (1977 or 1978). The printed tools will be most efficient for well-posted terms; they will provide full samples of major indexing in a format that provides 100 or more titles per page. If a problem is suspected, broaden the scan to others years for confirmation.

In most cases it should not be necessary to consult abstracts or to look at minor indexing. You will need to look at full indexing for selected documents, either online or in the printed indexes, to determine how certain terms may be used coordinately. In addition, some types of homographs, the "document type" terms for example, may be most obvious when major and minor indexing are compared. In these cases, print titles online or use *Educational Documents Index*.

As a general guideline, 80% or more conceptual consistency in assignment of a descriptor should be considered good consistency, particularly when the remaining indexing is miscellaneous and not clustered around a second distinguishable concept.

Keep in mind that titles provide only indirect evidence of the concepts being dealt with. Generalize from them to derive the underlying meaning of the concept/descriptor. Do not confuse the application of the concept in different contexts, which may appear as scattering at first glance, with genuine differences in meaning. Look beyond such applications to the fundamental concept. For example, DEVELOPMENTAL PROGRAMS are remedial skills programs in postsecondary education, may be related to physical development in early childhood, and may have other connotations for the handicapped. Nonetheless the basic idea of progressive development underlies each application.

1.4.5 Statistical Analysis

Ten hours of online time (about one hour per month) have been provided for each clearinghouse through BRS. Online tests of usage and term interactions will justify many types of change recommendations. Typically, online capabilities will be used for the following purposes:

(1) to update usage data provided on the Descriptor Review Forms;

(2) to check term overlap on near-synonyms and suspected synonyms--to determine how often they are used together, how often used separately, and, when used together, which is preferred as a major;

(3) to compare usage by clearinghouse (i.e., as an expedient for dealing with synonyms, clearinghouses may prefer one term and cease using the other);

(4) to test retrievability--for instance, to see if descriptors used in two or more ways (homographs, narrower concepts indexed via broader terms, etc.) can be teased apart with appropriate coordinations; conversely, to prove that a narrow concept with light postings will still be retrievable if merged with its BT or an RT;

(5) to locate appropriate citations for posting to new descriptors;

(6) to test term obsolescence by comparing usage frequencies of emerging expressions with current use of older expressions;

(7) to justify a new NT by testing the frequency of the concept in the literature;

(8) to print titles for analysis of indexing consistency.

1.5 INPUT PROCEDURES

1.5.1 The VIP Descriptor Justification and Data Input Form

The recto (front) of the DJF should be filled out according to the instructions and examples presented in the document *Instructions for Input to the "Play Thesaurus"*, which was distributed at the regional meetings. Contact the Lexicographer if you have any questions.

The core list of authorities used by each clearinghouse should be reproduced on the verso of the form in part D. Citations, particularly of well-known authorities, may be abbreviated. A number of blank spaces should be left so that sources used less frequently, and special sources such as ERIC documents, journal articles, names of subject experts consulted, etc., can be written in as needed.

Subsequent sections of the form are used as follows:

Justification (part E)

This section should be used to state the reasoning and/or cite the evidence in support of actions in the following categories:

(1) Deletes of obsolete terms/transfer to new terms

Justification: statistical frequencies of older/newer terminology, stability of terminology, equivalency of concepts (append printouts, pages from cumulative indexes, etc.)

(2) New NT's

Justification: search interest, frequency of concept in literature (append evidence), difficulties in retrieval

(3) Mergers with BT's

Justification: peripheral concept, light postings, retrievability (manual/online)

(4) Mergers with RT's

Justification: peripheral concept, light postings, no BT or BT not suitable, appropriateness of major postings to transfer term (append evidence)

(5) Mergers of synonyms and near-synonyms

Justification: equivalency of major postings (append evidence), authorities

(6) Transfers to Identifier field

Justification: peripheral concept, light postings, lack of appropriate transfer term, fixed terminology, specificity

(7) Purges

Justification: peripheral concept, scattered minor postings or high inconsistency and unreliability of postings, poor retrieval concept

(8) Hierarchical shifts

Justification: rectification of error (explain rationale, cite authorities)

The purpose of the justification is to explain your reasoning and to give the lexicographers all the benefit of your research, so that they need not retrace your steps. In many cases you will be able to adequately justify an action simply by checking the "Search results attached" box and appending printouts showing statistical interactions, pages from subject indexes illustrating natural language in titles or the similarity of postings for two descriptors, etc. Try to provide the lexicographers with the same evidence you used in arriving at your decision. Mark the examples.

No justification is needed where the reason for an action is obvious. Simple word form corrections, adds/deletes in RT's, scope notes, etc., will not require justification. Adds/deletes in UF's will ordinarily not require it, but where a conceptual problem exists give the lexicographers the benefit of your thinking.

The "Definitions attached" box should be checked when a new term is submitted without a scope note (see *ERIC Processing Manual*, page 323). The "ED/EJ citations attached" box should be checked if citations submitted for a new descriptor are too lengthy for listing on the front of the form.

Potential Impact (part F)

This section should be used to indicate problems of retrievability or conceptual conflicts that may arise from a given action, the solution(s) proposed, and an assessment of the importance of the problem if there is no easy solution. The set of scope notes for broad terms distributed in August 1978 illustrates some of the kinds of comments appropriate to this part of the form. Special care should be taken in assessing the impact of scope notes and descriptor deletes.

For scope notes, the statement should consider (a) how well the scope note fits the postings, (b) impact on retrievability of those postings the scope note does not fit, (c) how well the scope note fits the meaning of the descriptor's hierarchy both up and down, (d) how well it fits the descriptor's UF's, Group Code, and display, and (e) how it affects other related descriptors. If there is no impact, simply write "none". *Note: any DJF's necessary to resolve conflicts or discrepancies should be submitted along with the scope note. Impact statements will ordinarily be limited to problems not already resolved, i.e., problems either not resolvable or problems impacting descriptors in other clearinghouse assignments.*

The space below the dotted line can be used to indicate what actions other clearinghouses should take (e.g. revise a scope note, transfer postings, move a term to another hierarchy) to be consistent with a proposed action. If further related actions are planned by the clearinghouse, these should also be noted.

This space can also be used for notes such as "most dictionaries include xxxxxxxxx in the definition but this doesn't seem to fit our use of it"; "the word xxxxx in the SN seems too vague but I can't think of another"; "about 5% of the postings reflect the other meaning of the term--they should really be indexed under xxxxxxx."

COM (part G)

A "comment" (COM) must be submitted with each proposed descriptor delete to show where the postings should be transferred, e.g.,

TRANSFER POSTINGS TO TRAFFIC PATTERNS (EA)

TRANSFER POSTINGS TO NEW TERM ONLINE SYSTEMS (IR)

PURGE POSTINGS (CE)

The COM field should also be used to:

- alert another clearinghouse to actions needed for consistency with new DJF's;
- suggest alternatives to actions proposed by other clearinghouses;
- make an objection to an action or to respond to an objection;
- indicate agreement or objection to actions of the lexicographers.

Comments should necessarily be brief so that the same field may be used by several persons. COM's should always end with the clearinghouse code.

1.5.2. Batching DJF Input

DJF's should be submitted in the analytical units needed by the lexicographers--that is, all the DJF's needed to complete an action should be submitted together. Incomplete actions will be denied. In a project of this magnitude, the lexicographers cannot be expected to generate the secondary DJF's necessary to complete an action, as they so often have done in the past.

In a delete transaction, for instance, necessary DJF's would include:

1. The DJF for the term to be deleted with complete coded display and COM on transfer of postings.
2. The DJF for the term receiving the postings with UF (date-ranged) from the deleted term, along with any necessary transfers of the deleted term's UFs and any restructuring of the RT's needed for consistency with the merger.
3. A scope note for the receiving term if the merger alters its meaning or potential use.
4. Any DJF's necessary for hierarchical re-assignment of a deleted term's NT's, hierarchical adjustments for the receiving term, etc.
5. DJF's submitting COM's for other descriptors that may be significantly impacted by the delete.

Lexicographic analysis will be facilitated if you submit together all of the actions on a given working unit or cluster, e.g., the scope note and associated actions on a BT and any related actions on its NT's. In some cases, however, a transaction will cross clearinghouse assignments and you will have to depend on another clearinghouse to follow through. You may submit DJF's for one-half of a transaction if you (a) contact the other clearinghouse and obtain their concurrence on the action and agreement to submit other necessary DJF's, and (b) submit COM's for each descriptor affected indicating what action the other clearinghouse will take. It should be remembered that lexicographic approval cannot be given until all DJF's are received.

1.5.3 Submission of Postings for New Terms

Explicit instructions have been received from Central ERIC to the effect that the VIP is not to involve extensive "re-indexing" of the files. Beyond automatic transfer of postings through the ERIC software, re-posting must be kept to a minimum. With rare exceptions, previous indexing practice must be accounted for by instructional scope notes.

To comply with these instructions, the following guidelines have been established:

(1) Lists of accessions submitted for posting to new descriptors should be limited to instances of use of the concept as an identifier or (if there are no identifier postings) a few recent accessions selected from *RIE* and *CIJE*.

(2) The appropriateness of all accessions submitted must be manually verified through examination of resumes and, if necessary, the source document or article.

(3) Accessions must be submitted in two lists: those for posting as majors, and those for posting as minors.

(4) No unedited, computer-produced lists will be accepted.

It should be remembered that the new descriptor will show an Add Date that will alert users to locate earlier materials through appropriate alternative strategies.

1.5.4. Handling and Shipping

Three copies of each DJF should be made: one for lexicographic analysis and input to the *Play Thesaurus*, one for the Project Coordinator, and one for clearinghouse retention. Search results or other evidence submitted should be included with all copies.

Copies sent to the Project Coordinator will be quickly scanned and then filed in a temporary holding file. After six to eight weeks they will be discarded. These copies will allow the Project Coordinator to discuss the implications of an action with the Lexicographer (if necessary) and to act as the first line of appeal if an action is denied.

1.6 COMMUNICATION RESPONSIBILITIES

Through the generation of reciprocals and the COM feature, the *Play Thesaurus* will handle much of the burden of communication in the VIP. But after-the-fact communication will not be adequate in all situations. In some situations you should feel obligated to inform or consult with other clearinghouses.

Joint Actions

Actions involving descriptors in two or more clearinghouse assignments will require direct consultation, mutual concurrence, and agreement on the division of responsibility in DJF preparation. If the responsibility is divided, each clearinghouse should submit COM's for the other term(s) indicating what action will be taken by the other clearinghouse. If one clearinghouse agrees to prepare the DJF's, the other should submit a COM indicating that it concurs with the action.

Scope Actions

Communication or prior consultation on actions affecting terms in a core scope area of another clearinghouse should occur for deletes, revision of scope notes, or other substantive actions--unless the action is consistent with the clearinghouse's recommendation in the Thesaurus Review. Scope notes for terms in a core scope area of another clearinghouse should be carefully drafted to incorporate the other clearinghouse's usage of the term. If not contacted prior to submission of the DJF, the other clearinghouse should be provided a copy of the DJF itself.

Clearinghouses with FTS lines should undertake the major responsibility for long distance calls. Clearinghouses without FTS lines should not hesitate to ask FTS clearinghouses to call them back.

1.7 THE PLAY THESAURUS

The *Play Thesaurus*, so called to distinguish it from the "real" Thesaurus, will appear at approximately three-week intervals. Each edition will cumulatively display all recommended actions whether they have been reviewed and approved by the lexicographers or not. Approved actions will be flagged.

Date of receipt should be noted as each edition arrives so that the approximate date for the next edition can be anticipated. All DJF's that have not appeared in previous editions should be checked when a new edition arrives. Any serious delays in appearance of clearinghouse DJF's in the *Play Thesaurus* should be reported to the Project Coordinator.

Vocabulary coordinators should not spend time culling through new editions to see what other clearinghouses are doing, nor should they check back to see if the subsequent actions of other clearinghouses have affected terms they previously completed. Such review is necessary, but will be most efficient when a substantial proportion of the work has accumulated.

Two such reviews are planned: one for early April (mid-point) and another in October 1979, following publication of the final edition. At these times clearinghouses will be asked to (a) review the displays for their own assigned terms and for (b) terms assigned to other clearinghouses in which they have high scope interest. Conflicts will be identified and resolved during these periods.

1.8 DESCRIPTOR GROUP PROJECT

Revision of the ERIC Descriptor Groups is being undertaken as a separate project associated with the VIP. The project has been planned in several steps: preparation of evaluation and decision criteria, analysis of existing Descriptor Groups and proposals for revision, preparation of Group scope notes and cross references, then assignment of terms to the Groups. At each step all ERIC system components will be offered an opportunity to concur or object.

Cards have been distributed to each vocabulary coordinator for recommending changes in Descriptor Group assignments. As such recommendations are noted on the Descriptor Review Forms, the cards should be filled out and sent to the Project Coordinator.

Descriptor Group codes should continue to be included for all new descriptors. Any discrepancies occurring later through addition or deletion of Descriptor Groups will be adjusted by the Project Coordinator.

1.9 PROCEDURES FOR APPEAL AND SYSTEMWIDE REVIEW

Clearinghouses wishing to appeal a denied action should first contact the Project Coordinator. She will discuss the proposed action with the Lexicographer, gathering all evidence both for and against, and try to resolve the dispute. If agreement cannot be reached, she will bring the matter to a vote of the VIP Executive Committee or initiate a TCN.

Systemwide review of actions having major impact on ERIC indexing and retrieval may be initiated at any time by the Lexicographer or a vocabulary coordinator through regular TCN procedures. Vocabulary coordinators may submit TCN's and request their distribution upon the first initiation of an action or following denial of an action.

Clearinghouse personnel should respond immediately to any TCN's received.

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SECTION 2: PRINCIPLES FOR VOCABULARY IMPROVEMENT

2.1 FACILITATION OF RETRIEVAL

The ultimate justification for any action must be the facilitation of retrieval. In analyzing vocabulary problems and deciding on the course of action, the needs of searchers must come first. The needs of indexers are secondary. Hence "literary warrant"--the frequency of appearance of a concept in the literature--is not by itself an adequate justification for actions taken in the Vocabulary Improvement Project. For example, very light postings on a descriptor indicate that the concept appears infrequently in the literature and suggest that it is not needed for indexing. But unless it can be shown that deletion of the descriptor will not impede retrieval of the concept by either manual or online searchers, the term should not be deleted.

"Facilitation" can be defined as EASE PLUS PRECISION. Ease in retrieval and precision in retrieval differ in some respects for the manual and online searcher. Because of the much more limited access afforded the manual searcher, ease and precision of retrieval from the printed indexes should be afforded greater consideration. This does no disservice to the online searcher, who is aided by a powerful retrieval capability.

2.1.1 Ease and Precision in Manual Retrieval

Ease and precision in manual retrieval must be viewed in terms of the basic search unit--the cumulative semi-annual indexes. The experienced manual searcher selects the most *concrete* (or narrowest) facet of a topic and searches one or more descriptors (an OR set) representing that facet retrospectively through the cumulative indexes. An experienced manual searcher rarely searches multiple facets (AND sets) unless forced to.

Ease is more important for the manual searcher than precision; the eye scans the titles listed under a descriptor and without conscious decision--almost automatically--screens out irrelevant items. The two are not unrelated however; there must be a good proportion of "hits" to items scanned or frustration occurs.

Manual searching is impeded when:

- o Information is scattered under several very narrow, lightly posted descriptors *(too many look-ups/little reward)*;
- o For lack of a more specific descriptor, a broad highly-posted descriptor must be searched *(relevant items buried in extensive columns of entries)*;

- No specific or broad descriptor is available to represent the facet, so either a less concrete or a secondary facet must be searched or the facet must be searched through a number of related but off-target descriptors *(searching around the fringes of the topic)*.

2.1.2 Ease and Precision in Online Retrieval

Ease in online searching is provided by the powerful technology available to the online searcher, including the ability to search terms representing the same facet of a topic concurrently (OR sets), to search all the facets of a topic (AND sets), to exclude through NOT logic, and to go beyond descriptors and achieve specificity through natural language. The online searcher also has the advantage of displaying and selecting from combined lists of terms drawn from the various fields. (Compare the online and manual searcher's knowledge of and access to identifiers).

The basic search unit for online retrieval is the entire database. Consequently, precision is the foremost concern of online searchers. Irrelevant citations cannot be easily disregarded--they must be paid for!

Online searching is impeded when:

- Specific concepts subsumed under broad descriptors cannot be teased apart through natural language or appropriate coordinations;
- Descriptors are not available for concepts that can be expressed in many ways in natural language *(concepts for which there are many synonyms)*;
- Descriptors are not available for concepts having very common component words *(compare free-text searches on "Administrator" "Education" vrs. "Chi" "Square")*.

2.1.3 Implications for Vocabulary Improvement

Among the implications of manual and online search techniques for vocabulary improvement are the following:

(1) Both manual and online searchers need highly specific terms in core areas--the former because of high postings on concepts appearing frequently in the literature and the latter because free-text searching is not effective for concepts that include common words, e.g., teacher, student, attitudes, evaluation, program.

(2) Highly specific, very low-posted terms should be merged

whenever high potential exists for precision retrieval through natural language, e.g., EIGHT MILLIMETER PROJECTORS, SIXTEEN MILLIMETER PROJECTORS, CABINET TYPE PROJECTORS.

(3) The combined major postings for merged NT's should ideally not exceed 30-50 postings in a six-month period for either file.

(4) Lightly posted terms should never be merged with highly posted terms such as TEACHING METHODS or TESTS.

(5) Retention of specific precoordinated terms and creation of new ones is most important when

- the BT's or component concepts are moderately- to well-posted, or component words are common,
- the concepts are abstract and can be expressed in several ways, e.g., "reform", "problems",
- the concepts provide links among facets in topics, e.g., the "relationship" terms, the "influence" terms.

(6) Extensive reliance on the identifier field for concepts other than those expressed by proper nouns does an enormous disservice to the manual searcher.

(7) High search interest and use is sufficient justification for creation of a new descriptor even if a concept can be retrieved indirectly or by coordination.

2.2 MAINTAINING INTEGRITY OF ACCESS TO THE BACKFILES

The ultimate authority and referent for any action must be the body of literature tagged by the descriptor(s) acted upon. While it is true that the Thesaurus exists as a logical intellectual structure independent of the database, its purpose is to guide retrieval (that's what indexing is for). It follows, then, that a scope note must be defined as a guide to what will be retrieved by a descriptor. If what will be retrieved varies over time, then the Thesaurus must account for that variance.

Vocabulary improvement must not only resolve problems for the future but account for past usage. It is an inescapable fact that access to major indexing through the printed indexes is fixed. In large measure, the database is also fixed, since reposting will be limited primarily to one-to-one or one-to-two transfer/deletes. Maintenance of access to the older literature, as indexed at any point in time, must be a paramount concern in vocabulary improvement.

The two communication links for maintaining access are UF's and scope notes. In most instances, standard practices in the use of these data elements (date ranging, etc.) will suffice to maintain access. In the case of multi-meaning and multi-usage descriptors, however, it may be necessary to provide explicit historical notes explaining prior usage.

2.3 RELATIONSHIP TO EDUCATION AND THE ERIC SYSTEM

All actions must take into account whether the concept acted upon is core, of immediate interest, or peripheral to education and/or the ERIC system. Much more specificity and refinement of concepts is necessary in areas central to the ERIC database than in peripheral areas. Decisions made in vocabulary improvement must vary accordingly.

For example, light postings on a term in a core area of education may represent a high percentage of the total available information on that topic. The three postings on OPEN BOOK TESTS may thus have a special importance; they suggest that this is an area of *information scarcity*. On the other hand, the three postings on FEED STORES probably represent only a small proportion of the total available information. This concept is very peripheral to education but is of immediate interest to agriculture and its documentation systems, including *Biological and Agricultural Index* and the AGRICOLA database. Judgments on postings frequencies must always consider the potential information availability from sources other than ERIC.

2.4 APPLICATION OF SPECIAL RULES AND PRINCIPLES WITHIN CLEARINGHOUSE ASSIGNMENTS

No clearinghouse may initiate and apply a principle not contained in the guidelines that is also applicable to terms in other clearinghouse assignments without first consulting the Lexicographer. One clearinghouse may decide to prefer population terms to "condition" terms (e.g., EDUCATIONALLY DISADVANTAGED/ EDUCATIONAL DISADVANTAGEMENT) on the basis that these are synonymous for retrieval. Another clearinghouse may reach the same conclusion but prefer the condition terms.

The Lexicographer must be informed of such decisions before the DJF's are prepared. He will than be in a position to monitor the application of principles systemwide and to forestall those inconsistencies that may affect retrieval.

2.5 FUNDAMENTAL GUIDELINES

Clean input... While not a principle for decision-making, this is clearly a fundamental principle for this project. Do it right. Don't deal with one problem and ignore another associated with it. Don't resolve one problem and disregard the conflict or discrepancy created by that very solution. Every action will have a ripple effect.

Fundamental Guidelines
# of the ERIC Vocabulary Improvement Project

Errors (or, more technically, *dumb moves*) will be minimized if you always, always obey the following rules.

(1) Do not analyze a descriptor in isolation but always in the context of related descriptors.

(2) Do not work with displays on the Descriptor Review Forms. Always examine descriptor displays in the context of the place where they file in the Thesaurus.

(3) UF's must be viewed from the place where they file, not from the perspective of the main term.

(4) RT's must be examined from the perspective of both main terms.

(5) Never take action on a descriptor--any action--without examining its postings, i.e., the literature indexed by it.

(6) Never take action on a descriptor without checking every substantive word in the main term and its UF's in the *VIP Rotated Display*. Look carefully.

(7) Carefully consider the impact of any action on other terms and take steps to resolve discrepancies and conflicts, if only by COM's.

(Suitable for Framing)

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SECTION 3: MAIN TERMS

3.1 RULES FOR MAIN TERMS

1. Descriptors (main terms) are limited to 50 characters, including blanks.

2. Allowable characters are limited to the letters A - Z, the numerals 0 - 9, and parentheses ( ).

3. Parentheses may be used only to qualify homographs, e.g., DEPRESSION (PSYCHOLOGY), DEPRESSION (ECONOMICS).

4. Descriptors are limited to nouns and noun phrases, however these include nouns derived from verbs and adjectives.

5. The plural form should be used for "count nouns" (things, entities)--nouns about which one should ask "how many?"

   The singular should be used for "mass nouns"--nouns about which one should ask "how much?", e.g., CONTROL, PRACTICE, EQUIPMENT. These include those nouns derived from verbs and adjectives that represent processes, attributes or properties, and conditions. They can be identified by the suffixes -TION, -ITY, -NESS, -MENT, and -ING.

6. Multi-words descriptors should reflect direct, natural word order as found in the literature.

   ADULT EDUCATION *not* EDUCATION OF ADULTS
   but FREEDOM OF SPEECH *not* SPEECH (FREEDOM OF)

7. The terminology used in descriptors should reflect that used in the literature to express the concept.

   - In cases where no particular language is used predominantly, the preferred form should be the form best recognized and most acceptable to relevant user groups.

   - In cases where the terminology appearing most frequently in the literature or most acceptable to user groups may cause conceptual difficulties, i.e., where the component terms are already used in the Thesaurus to represent entirely different concepts, prefer the form best reflecting the meaning of the concept within the context of the Thesaurus's existing "terminology terrain."

8. Descriptors must have technical precision, stability, and staying power.

3.2 EVALUATION AND DECISION CRITERIA FOR POTENTIAL DELETES

3.2.1 Word Form Corrections

Grammatical Errors

Needed changes in grammatical forms will usually be obvious. The few verbs found in the Thesaurus are well known. Contorted noun forms are also readily discernable.

```
EXHAUSTING                                  NOV69
  BT  CLIMATE CONTROL
  RT  AIR CONDITIONING
      AIR FLOW
      AIR POLLUTION CONTROL
      CHIMNEYS
      CONTROLLED ENVIRONMENT
      FUEL CONSUMPTION
      HEATING
      HEAT RECOVERY
      VENTILATION
```

As in, "The bus belched off down the street, enveloping me in a cloud of horrible black _____."

The most common errors are those involving singular or plural forms. The *Rotated Display* can be useful for identifying such errors.

```
                                       COMPLEXITY LEVEL
      BIRTH RATE                       EMPLOYMENT LEVEL
    DISEASE RATE                     INTELLIGENCE LEVEL
    DROPOUT RATE                        KNOWLEDGE LEVEL
 ENROLLMENT RATE                          READING LEVEL
      HEART RATE                       ADAPTATION LEVEL THEORY
        TAX RATES                     ABSTRACTION LEVELS
                                     ILLUMINATION LEVELS
                                LANGUAGE LEARNING LEVELS
```

In some cases, word forms that appear strange may be the result of hierarchical mis-assignment. In the example below the UF ATTITUDE CHANGE is the correct form for the concept. The descriptor was so constructed to place it in the ATTITUDES hierarchy. If this assignment were correct (meeting the test [Main Term] are "kinds of" [BT], i.e., CHANGING ATTITUDES are kinds of ATTITUDES), then the meaning of the descriptor would have to be "attitudes that are changing." The descriptor really belongs in the DEVELOPMENT hierarchy along with the other type-of-change terms.

```
      BEHAVIOR CHANGE            CHANGING ATTITUDES               JUL66
        CAREER CHANGE              UF  ATTITUDE CHANGE
     COMMUNITY CHANGE              BT  ATTITUDES
      ECONOMIC CHANGE              RT  ADOPTION (IDEAS)
   EDUCATIONAL CHANGE                  BEHAVIOR CHANGE
ORGANIZATIONAL CHANGE                  CHANGE AGENTS
   PERSONALITY CHANGE
        SOCIAL CHANGE
```

All grammatical errors should be corrected.

Obsolete Terminology

Over the twelve years of ERIC's existence, numerous changes in educational terminology have occurred--new concepts have appeared, new expressions have been adopted to reflect slight changes in meaning or shifts in emphasis of older concepts, older concepts have been given new names even though the meaning remains stable, and political and social realities have impacted on terminology.

In most cases the need for deletion of a descriptor and transfer of its postings to a new word form will be evident in an examination of titles posted to the term. Manual or online searches (or both) must be conducted to statistically test the strength of the change; do not rely on your experience in indexing.

In making such decisions you must consider:

(1) Is the shift to the new terminology or word form absolute, fixed, and stable, or is the new expression or construction in the *process* of change? Analyze the statistical frequency of the older and newer expressions in titles (not in abstracts, which may reflect abstractor language rather than author language). The journals will be particularly helpful. Is the older terminology still hanging on? Is usage mixed? It may be too soon for deleting the descriptor. Consider a UF from the new terminology.

(2) Is the meaning of the new expression exactly the same as the old? Are there different emphases or connotations that suggest that the new term is a near-synonym, or that it has an RT relationship to the descriptor? When new terminology emerges, discussion of the change can often be found in the literature. Try to locate such discussions through online searches. You must be assured of synonymity before deleting a descriptor.

(3) Is the new expression an *application* of the concept in a new context? Does it have an NT relationship to the descriptor? Do the other descriptors assigned coordinately in pertinent citations provide clues?

(4) Are there any indications that the new expression is a current buzz word or passing fad? Is it a promotional effort of a particular project or group?

It is best to be cautious in making such changes; if any doubt remains as to the permanence of the new term, provide access by establishing a UF. However, if the change is justified, process the transfer/delete and leave a UF with date ranges under the form of the obsolete term.

Sexist Terminology

Some changes in word form may be made without explicit or statistical justification. "Sexist" terminology should be corrected whenever common sense indicates that the application of a concept to a particular gender is not appropriate.

```
CLERGYMEN                    JUL66
 UF  MINISTERS
     PARSONS
     PREACHERS
```

This does *not* mean that wholesale transfer/deletes of every descriptor with a man/men prefix or suffix should occur. "Man" still retains is generic meaning, as in "mankind". Any term that is used generically, e.g., CRAFTSMEN, should be retained.

Replacement of man/men terms with "person" terms--PERSONPOWER DEVELOPMENT, REPAIRPERSONS, MAILPERSONS--is particularly obnoxious; these forms should be used only when supported by the literature. "Personnel", "workers", "technicians", "specialists", etc., are available as alternatives. Usage in other thesauri will provide precedent for such terms as HUMAN RESOURCES DEVELOPMENT, REPAIR TECHNICIANS, POSTAL WORKERS, and HOUSEHOLD WORKERS.

Other Errors

In some cases, the form of a descriptor may be just plain wrong, justified neither by usage in the literature nor by common parlance. Such descriptors violate the principle that the form of descriptors should be derived from natural language.

```
NUN TEACHERS                 JUL66
 UF  TEACHING SISTERS
 BT  NUNS
     WOMEN TEACHERS
 RT  CATHOLIC EDUCATORS
     CATHOLIC SCHOOLS
     PAROCHIAL SCHOOLS
     RELIGIOUS EDUCATION
```

Unnatural constructions of this type may occur through a desire to make the form of the descriptor parallel to that of other descriptors in the same hierarchy. This is unnecessary.

Warning: Before deleting and transferring a poorly constructed descriptor, make sure that the form was not required to prevent some conceptual difficulty or other ambiguity inherent in more commonly used expressions.

3.2.2 Synonyms and Near-Synonyms

Synonym must be understood to mean *"synonymous from the point of view of retrieval in the ERIC database."* Dictionary distinctions, and even fine distinctions that may be justified from the point of view of the literature, are not important if they do not hold up from the point of view of searching. For instance, COLLEGE FACULTY is a broader concept than COLLEGE TEACHERS; the "faculty" include department chairmen, researchers, clinical staff, etc., that are not teachers. Yet "faculty" is the accepted term used in the literature (and in real life) for postsecondary instructional staff. Even if the two descriptors were carefully distinguished with scope notes, it is difficult to imagine any search query that would not use them both. Hence they must be considered synonyms.

Identifying Synonyms and Near-Synonyms

Synonyms and near-synonyms can be identified by:

(1) Word Occurrence Relationships

Check the *VIP Rotated Display*. Are there frequent back and forth UF's between component words, either the "focus" words or the modifiers? Are the UF's synonymous, either with each other or with the opposite descriptors?

```
VOCATIONAL COUNSELING
 UF  OCCUPATIONAL COUNSELING
 BT  COUNSELING

OCCUPATIONAL GUIDANCE
 UF  VOCATIONAL GUIDANCE
 BT  GUIDANCE
```

Vocational.. to Occupational..(3 UF's)
Occupational.. to Vocational..(4 UF's)

Counseling.. to Guidance.. (1 UF)
Guidance.. to Counseling.. (3 UF's)

```
MODELS
 SN  REPRESENTATION OF AN OBJECT,
     PRINCIPLE, OR IDEA
 UF  CONCEPTUAL FRAMEWORKS →
     THEORETICAL MODELS
 NT  CONCEPTUAL SCHEMES →
     MATHEMATICAL MODELS
     ROLE MODELS
     STUDENT WRITING MODELS
     TEACHING MODELS
```

```
CONCEPTUAL FRAMEWORKS
 USE MODELS

CONCEPTUAL SCHEMES
 BT  MODELS
 RT  CONCEPT FORMATION
     THEORIES
```

(2) Evidence of the Displays

Does one descriptor have a full display while the other has hardly any? This may be evidence that one has been preferred and the other ignored because it was known to be synonymous and to need deletion.

```
COURT LITIGATION                    JUL66
 UF  COURT ACTION
     COURT DECISIONS
     JUDICIAL ACTION
     LEGAL DECISIONS
     LITIGATION
 NT  FEDERAL COURT LITIGATION
     INTEGRATION LITIGATION
     SUPREME COURT LITIGATION
 RT  CONSTITUTIONAL LAW
     COURTS
     JUVENILE COURTS
     LAWYERS
     LEGAL PROBLEMS
```

```
COURT CASES                         JUL66
 BT  COURTS
```

Are the RT's virtually identical?

```
CAREER CHOICE                         JUL66    OCCUPATIONAL CHOICE                    JUL66
  BT  SELECTION                                  UF  CAREER OBJECTIVES
  RT  ASPIRATION                                     VOCATIONAL CHOICE
      CAREER AWARENESS                           BT  SELECTION
      CAREER CHANGE                              RT  ASPIRATION
      CAREER EDUCATION                               CAREER CHANGE
      CAREER EXPLORATION                             CAREER CHOICE
      CAREER PLANNING                                CAREER EXPLORATION
      CAREERS                                        CAREER PLANNING
      EMPLOYMENT OPPORTUNITIES                       EMPLOYMENT OPPORTUNITIES
      OCCUPATIONAL ASPIRATION                        OCCUPATIONAL ASPIRATION
      OCCUPATIONAL CHOICE                            OCCUPATIONAL GUIDANCE
      OCCUPATIONS                                    OCCUPATIONS
      PERSONAL INTERESTS                             VOCATIONAL DEVELOPMENT
      VOCATIONAL INTERESTS                           VOCATIONAL INTERESTS
      VOCATIONAL MATURITY                            VOCATIONAL MATURITY
```

(3) Evidence of the Postings

Is there a high overlap in postings, 40% or more? Some indexers may try to cope with synonyms by using both; this expedient ensures recall. *Both high overlap and very low overlap are suspicious.*

Is the ratio of major to minor postings very one-sided and in opposite directions, i.e., one tends to be used significantly more often as a major and the other as a minor?

Is one descriptor posted with much greater frequency than the other? Does the frequency vary by clearinghouse? When faced with synonyms, in-house preferences for using one over the other may have occurred.

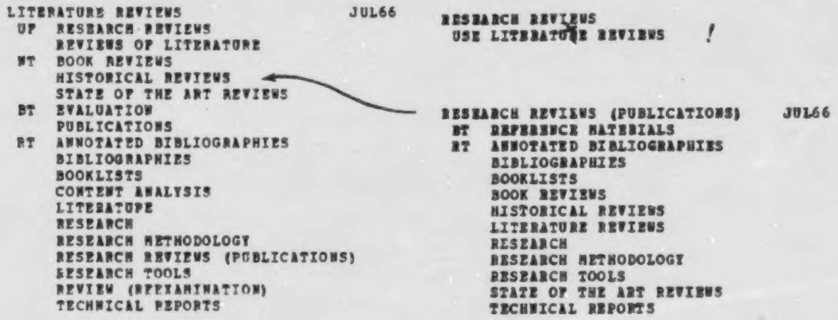
Testing the Degree of Synonymity

The evidence of the thesaural "terminology terrain" revealed by the rotated display, the evidence of conceptual associations shown in the descriptor displays, and the evidence of statistical interactions are important "nearness measures". These identify near-synonyms but are not conclusive proof of true synonymity. The key questions must then be asked: How are they used? What do they retrieve? The following decision tree can be employed--

- Are there any distinguishable differences in *meaning* evident in the postings? Check titles, particularly for major postings where the concepts will be most prominant. Do not confuse *meaning* with *what the author calls it*; word usage is not significant. If you find the postings split by word occurrence, you will have to beyond titles to resumes or even documents to isolate the concepts.

  - If there are no distinguishable differences then merge.

- If there are some apparent distinctions then ask the following--
  - Would searchers want to be able to retrieve the two concepts separately, or would they usually want to use them both? *(consider statistical overlap here)*
  - Is there a direct but hidden hierarchial relationship? One term may be an NT (conceptually) of the other.



```
LITERATURE REVIEWS                  JUL66    RESEARCH REVIEWS
 UF  RESEARCH REVIEWS                         USE LITERATURE REVIEWS    !
     REVIEWS OF LITERATURE
 NT  BOOK REVIEWS
     HISTORICAL REVIEWS
     STATE OF THE ART REVIEWS
 BT  EVALUATION                              RESEARCH REVIEWS (PUBLICATIONS)    JUL66
     PUBLICATIONS                             BT  REFERENCE MATERIALS
 RT  ANNOTATED BIBLIOGRAPHIES                 RT  ANNOTATED BIBLIOGRAPHIES
     BIBLIOGRAPHIES                               BIBLIOGRAPHIES
     BOOKLISTS                                    BOOKLISTS
     CONTENT ANALYSIS                             BOOK REVIEWS
     LITERATURE                                   HISTORICAL REVIEWS
     RESEARCH                                     LITERATURE REVIEWS
     RESEARCH METHODOLOGY                         RESEARCH
     RESEARCH REVIEWS (PUBLICATIONS)              RESEARCH METHODOLOGY
     RESEARCH TOOLS                               RESEARCH TOOLS
     REVIEW (REEXAMINATION)                       STATE OF THE ART REVIEWS
     TECHNICAL REPORTS                            TECHNICAL REPORTS
```

For example, RESEARCH REVIEWS (PUBLICATIONS) is an NT of REFERENCE MATERIALS, while LITERATURE REVIEWS is an NT of PUBLICATIONS. But REFERENCE MATERIALS is also an NT of PUBLICATIONS. Is RESEARCH REVIEWS (PUBLICATIONS) really an NT of LITERATURE REVIEWS? Would a hierarchical shift resolve the ambiguity?

  - Are the concepts in a core area, an area of immediate interest, or in an area peripheral to the educational disciplines and the interests of the ERIC system? Near-synonyms in peripheral areas are unwarranted.

Merging Synonyms and Near-Synonyms

Once the decision is made that the two descriptors are synonymous for the purposes of ERIC retrieval, determine which to merge and which to retain on the basis of the following criteria (in rank order):

(1) If there is an hierarchical relationship (direct or indirect) retain the broader term.

(2) Retain the form most used in the literature. Run a free-text search of titles, or examine titles in the printed indexes.

(3) Retain the most heavily posted descriptor, or the one most heavily posted as a major if there are clear differences.

(4) Retain the form that best reflects the meaning of the concept.

Retaining Near-Synonyms

Near-synonyms should be retained in core areas and areas of immediate interest when there is need to be able to retrieve the concepts separately, even through they may often be used together in broader searches.

If retention is justified, *both descriptors must be scoped*. The scope notes should make explicit reference to the other term in a parenthetical note--otherwise we are no better off than before. See Section 4.5.1 and 4.5.3.

3.2.3 Lightly Posted Terms

Lightly posted terms, those with fewer than 20 postings, may be said to have low "literary warrant"--that is, the concepts they represent occur infrequently in the literature. However, the mere fact of infrequent use is not an adequate justification for deletion of a descriptor. They do not take up much space in the Thesaurus, and in many cases (perhaps even in most cases) it does not hurt to leave them there.

Two factors must be considered in the evaluation of low-posted terms:

- Is retention best facilitated by retention or deletion of the descriptor? (See Section 2.1-2.1.3)
- Is there an appropriate place for transfer of the postings?

To determine whether deletion would facilitate or hinder retrieval, ask the following questions:

(1) Is the concept in a core area, an area of immediate interest, or an area peripheral to education and/or the ERIC system? (See Section 2.3)

(2) Is the descriptor one of several very narrow and specialized terms which together cause a *scattering* of information? Are searchers likely to want to retrieve them separately, or would they more often want them all? Would merging them so increase the major postings per file in any six-month period that the manual searcher would be hindered? Our five different terms for types of AIR STRUCTURES, each with fewer than five postings, illustrate the frustrating task the manual searcher often faces. (What about nine different kinds of film projectors?)

(3) Is the concept represented by the descriptor sound, concrete,

or otherwise characterized by potential for good precision? Is it fuzzy or slippery? Is it ambiguous? A concept with *good hard meaning* in it will be used with precision in both indexing and retrieval.

(4) Are the postings mostly major or mostly minor, or evenly divided? A term posted primarily as a minor can be said to have less importance than a term posted primarily as a major, through the number of postings is equal. Deletion of such a descriptor has little impact on the manual searcher, while the online searcher may be able to retrieve the concept with little difficulty whether the term is deleted or not.

Wouldn't a searcher be happy to get five or six good citations on a topic where there is little information? If the concept is sound, in an area of immediate interest, and does not represent scattering, and if there are several major postings offering good information on it, *what good does it do* to delete the descriptor? What end is served by transferring it to the identifier field and eliminating thesaural access? What end is served by posting it up to a broader term? Remember that you do not have to justify retaining a descriptor, but you have to have strong arguments for deleting one.

These are not the only considerations. No matter how strong the arguments, a descriptor must not be deleted if there is no appropriate place for transfer of its postings. With the exception of terms with a few scattered postings as a minor, retrieval of a concept must still be possible for both the manual and online searcher after its descriptor is deleted.

To determine whether postings on a candidate for deletion can be appropriately transferred, consider the following questions:

(1) Is there a BT or closely-related RT *with sufficient specificity* available for the transfer of postings? Transfer of postings to broad or highly posted terms means significant loss of retrievability. For instance, transfer of postings on INTERSTATE WORKERS to its BT PERSONNEL, or of LEFT HANDED WRITER [*sic*] to its BT GROUPS does not help the searcher!

(2) Would the UF relationship between the deleted descriptor and the descriptor receiving its postings meet the test for hierarchy (see Section 5.4)? Would it meet the test for synonymity--that is, can they be considered synonymous for the purposes of searching? *Postings may never be transferred to a narrower or more limited concept (whether identified as an NT or not).*

(3) Would transfer of postings from a candidate for deletion leave a "precoordinated upward UF" that would be confusing? (See Section 5.5.3) Such references lead from a multiply-faceted concept to just one of its facets. They are disturbing to both indexers and searchers since they suggest, contrary to simple logic, that no other coordinations are necessary to either index or retrieve the concept. A case in point would be the transfer of postings on INTERNATIONAL TRADE VOCABULARY to its BT VOCABULARY, requiring the reference-- INTERNATIONAL TRADE VOCABULARY (1966 1979)
Use VOCABULARY

(4) Can an appropriate term for coordination be specified, so that a "multiple UF" can be established? "Appropriate" means that one and only one possible coordination (or set of coordinations) exists to capture the concept. Usually descriptors representing a class of things, i.e., that have several NT's, are not appropriate for multiple USE references. FILMSTRIP PROJECTORS could easily be transferred to FILMSTRIPS and PROJECTION EQUIPMENT, but INSTITUTION LIBRARIES could not be transferred to INSTITUTIONS and LIBRARIES; too many specific types of institutions exist as NT's that might be more relevant to particular documents, e.g., those about church libraries or prison libraries.

NOTE: A precoordinated descriptor that is an NT to another directly parallel precoordinated descriptor is never a condidate for a "term split". That is, COOKING INSTRUCTION should be posted up to FOODS INSTRUCTION, not to COOKING and INSTRUCTION.

(5) Is the concept being considered for deletion commonly known by the specific terminology of the descriptor, or can it be expressed in several ways? *(Check titles)* Does the descriptor have its own UF's? Transfer to the identifier field is usually not appropriate for such terms.

POP QUIZ: If you wanted to delete FISCAL CAPACITY, *where would you transfer its postings?*

3.2.4 Terms With Declining Postings

Year-range breakouts of postings data on the Descriptor Review Forms provide an immediate means of identifying those descriptors which, for whatever reason, are no longer used or are used much less frequently than in former years. Many of the "facilities" terms exhibit this phenomenon, having good or moderate use during the early years of ERIC but infrequent use since then. These declines are explained by the termination of the Clearinghouse on Educational Facilities, and, subsequently, the lower volume of facilities literature entering the system.

In general, actions on terms with sharply declining postings should only be taken when the terms meet other criteria for deletion--that is, when deletion can be shown to facilitate retrieval and when an appropriate receiving descriptor is available for transfer of postings. The soundness of the concept, the ratio of major to minor postings, evidence of scattering due to the presence of several very specialized terms, and the relationship of the concept to the educational disciplines, as discussed in Section 3.2.3, apply equally to decisions on terms with declining postings.

Why is the descriptor no longer used with the same frequency as before? There may be any number of reasons, but *you must be able to specify what the reason is, in any given case, before you can recommend deletion.* For example:

(1) A new expression may have emerged to reflect shifts in emphasis or meaning in an older concept. Indexers may be using another descriptor, one closer in terminology to the new expression, to index the concept. Here the considerations listed in Section 3.2.2, Synonyms and Near-Synonyms, would apply. Either the two terms should be merged, or a new descriptor corresponding to the new terminology should be established with transfer of postings from the obsolete descriptor.

(2) New descriptors may have been added to the Thesaurus, perhaps as NT's or precoordinated RT's to the term, for which the term was formerly used. This is often the case with broad terms. As more specific precoordinated terms are added to the Thesaurus, postings on broader terms are bound to decline. This is no reason for deleting the more general term however.

(3) A once-popular expression or concept may have passed its heyday in the literature or otherwise fallen out of favor. Labels for population groups are particularly sensitive to social and political changes. Heavily-posted euphemisms such as CULTURALLY DISADVANTAGED, however, should not be deleted unless exact synonymity with another term can be shown. In general, concepts or topics popular during a certain period, but about which little is currently being written, should be retained. At the least the topic will have historical value and a resurgence of interest in the future is always possible.

3.3 PROCEDURES FOR DELETES

3.3.1 General Procedures

Each action must be tested and justified by the criteria provided in Section 3.2.

As a preliminary part of the research you must check each substantive word in the candidate-delete and candidate-receiving descriptors and in their UF's in the *VIP Rotated Display*. Be on the alert for any conceptual problems; follow-up to check thesaurus displays and titles posted to other descriptors, as necessary, to fully understand the relationships of the candidate-delete with other terms.

You must also verify the appropriateness of the transfer by carefully examining titles/abstracts of the literature posted to both descriptors.

Steps in the preparation of change recommendations will include:

1. Prepare the DJF for the candidate-delete, entering and coding the entire display (minus scope note, if any), e.g., (D JC), and adding a COM showing where the postings are to be transferred.

2. Prepare the DJF for the receiving descriptor, entering a date-ranged UF (1966 1979) with ADD code for the deleted term and also adding any of its UF's that are required to maintain access. On this same DJF restructure the receiving descriptor's RT's to reflect any changes in its scope stemming from the transfer.

3. If needed, provide a scope note for the receiving descriptor on a third DJF.

4. Reconcile any associated conceptual problems (hierarchical, etc.) through preparation of additional DJF's or by the submission of COM's alerting other clearinghouses to the action(s) needed.

5. Make copies of evidence from your research relating to the evaluation and decision criteria, as applicable.

6. Fill out the verso of the primary (delete) DJF. Provide a brief justification outlining your reasoning and assessing the potential impact of the action.

3.3.2 Specific Types

Transfer to New Term

Functions--word form corrections, replacement of obsolete or incorrect terminology.

Prepare the DJF's for the delete and for the new term. Include a Descriptor Group Code and, unless a simple word form correction is involved, append a definition. No justification is needed for grammatical word form corrections *except* when a substantive hierarchical or other change is involved, as in the example of CHANGING ATTITUDES on page 32.

For obsolete expressions, gather statistical evidence (see page 33) and available supporting evidence from authorities. In the justification, comment on the equivalency of the old and new expressions, any shifts in emphasis or meaning, etc.

Simple Merge

Functions--merger of synonyms, of near-synonyms where not warranted or where synonymous for retrieval, and of lightly posted terms.

Process and outlined above in Section 3.3.1.

For synonyms and near-synonyms, attach copies of index pages, printouts, etc., as described on pages 35-36, and evidence from authorities. In the justification, explain why you selected the descriptor to be retained, and comment on the following as appropriate:

- o statistical effect of merger on future postings
- o and distinguishing differences in meaning or usage between the terms
- o possibilities for separate retrieval online where differences exist

For lightly posted terms, if the transfer is not to a BT with good specificity, i.e., if the transfer is to an RT or a broad BT, comment on the conceptual relationships between the terms, the appropriateness of the major postings to the receiving term, and possibilities for retrieval online.

Multiple Merge

Function--gather together several very specific NT's; post to BT or new term.

Process DJF's for each candidate-delete as outlined and for the receiving descriptor. A new descriptor will usually be necessary only where the BT is too broad (or too highly posted), and where a receiving term is needed intermediate in the hierarchy. If this is the case, explain the situation in the justification.

Term Split

Function--transfer to two or more component concepts when an appropriate coordination can be specified and when the BT is not suitable, e.g., transfer of INTERSTATE WORKERS to its BT PERSONNEL. Caution is warranted here; generally, transfer to two very broad terms, particularly those with their own NT's, is not appropriate. At least one of the component terms in the transfer should have good specificity. Use of the "term split" should be limited to those instances where one and only one coordination can be specified.

Process the DJF for the delete, and prepare two (or more) "multiple USE" references on DJF's for the receiving terms.

In the justification, comment on the alternatives for transfer and your reasoning for establishing the "multiple USE" reference, the appropriateness of the postings to each of the transfer terms, and the possibilities for manual retrieval.

Transfer to Identifier Field

Function--transfer of terms with high specificity allowing direct access through the same terminology.

Process the delete with a COM indicating transfer to the identifier field. This should be done only when there is no appropriate BT or RT for transfer. If several related lightly posted terms exist, prefer a multiple merge to a new term, particularly when the BT is too broad for transfer.

Transfer of postings to the identifier field must be restricted to those types of descriptors with highly precise meaning and well-known terminology. Generally, such transfers should fall into one of the presently authorized identifier categories. Transfer of concepts that can be expressed in several ways or that have obvious synonyms should be avoided; in these cases it is preferrable to retain thesaural access through UF's. Transfer of concepts in core areas, even if lightly posted, is also not recommended.

In the justification, comment on alternatives for transfer and on the impact of loss of thesaural access on retrievability.

Purges

Function--deletion of a few scattered postings or of unposted descriptors.

Process the delete and indicate PURGE in the COM field.

Each citation must be individually checked for alternate retrievability before a purge can be recommended. Where necessary, compensatory re-indexing is allowable--submit terms and accession numbers. Purging is generally not recommended and should be restricted to descriptors with no postings in the active files or descriptors with a few minor postings that are highly ambiguous, e.g. CIVIC BELIEF.

Submit copies of the resumes of materials recommended for purging, in full. Explain why purging is more desirable than transfer.

3.4 EVALUATION AND DECISION CRITERIA FOR NEW DESCRIPTORS

Other than the correction of word form errors and updating of obsolete terminology, the generation of new descriptors in the Vocabulary Improvement Project will occur primarily to correct problems of retrievability associated with existing descriptors.

Such problems will be identified in examining postings to determine the consistency in usage of descriptors. Many (perhaps most) problems of inconsistency do not seriously affect retrieval and can be adequately resolved through carefully devised scope notes (see Section 4.5.3). In other cases, usage may cause difficulties for either manual or online retrieval, or both, that should be corrected by splitting out new narrower or related concepts and establishing them as new descriptors.

3.4.1 Concepts Indexed Coordinately

Highly Posted Terms

Well-posted terms, and especially those well-posted as a major, should be examined with the following questions in mind:

(1) Is there evidence of frequent use in a specific narrower sense or application? Burial of items in extensive lists of entries will greatly hinder the manual searcher.

(2) Is the other descriptor used coordinately to capture the concept also highly posted as a major? For instance, the concept "women administrators" is indexed under FEMALES and ADMINISTRATIVE PERSONNEL, both of which are highly posted. Online coordination is both easy and precise, but while the manual searcher will have no trouble recognizing relevant citations, retrieval will not be easy no matter which term is searched.

(3) Are there several other descriptors that may be used coordinately with the high posted descriptor to represent the concept? Is

there no good or obvious term to use in coordination? The manual searcher would be forced to search either the highly posted term or a number of other, perhaps slightly off-target terms. In the example below, the conceptually narrower UF's provide clues to two problems.

```
ADMINISTRATIVE PERSONNEL          JUL66
 UF  ADMINISTRATIVE STAFF
     ADMINISTRATORS
     BUILDING OFFICIALS
     BUSINESS MANAGERS
     BUSINESS OFFICIALS
     MANAGEMENT PERSONNEL
     SCHOOL ADMINISTRATORS
     SCHOOL BUSINESS OFFICIALS
```

- o To retrieve materials on the concept "Building Officials", the manual searcher would either have to search under the highly posted term ADMINISTRATIVE PERSONNEL or under the "OR set" BUILDINGS, SCHOOL BUILDINGS, COLLEGE BUILDINGS, and perhaps BUILDING OPERATION.

- o To retrieve materials about "School Business Officials" the manual searcher would have to search either under ADMINISTRATIVE PERSONNEL or approach the concept sideways under such terms as SCHOOL ACCOUNTING--there is no term representing the concept of "school business".

Note that both these concepts may represent problems for the online searcher as well. The component words--school, business, building, officials--are common, and the concept "officials" can be expressed variously, e.g. managers, directors, administrators.

(4) Does the coordination required to retrieve the concept represent a "relational homograph"--that is, can the terms be combined differently to produce two distinct meanings? To retrieve the concept "women's attitudes", for example, the manual searcher would have to search either ATTITUDES or FEMALES, both of which are highly posted as majors. In fact, because this would be so time consuming the searcher would probably choose to search the facet of the topic representing the object of the facet "attitudes", if it were more easily retrievable. Often this is not possible, as when the object is a broad class of things (e.g., different occupations) or lacks good precision (e.g., having doors opened for them or being offered a Tiparillo). The online searcher, however, would receive both materials about "attitudes of women" and "attitudes toward women" when coordinating these terms.

A better example of this problem is seen in a search of "attitudes toward the handicapped". The manual searcher must search the highly posted terms ATTITUDES and HANDICAPPED, and also the NT's PHYSICALLY HANDICAPPED, MENTALLY HANDICAPPED, etc. The online searcher would retrieve materials on attitudes toward but also attitudes of the handicapped, and would be unable to "NOT out" the improper coordination. The literature on each of these topics is extensive--so much so that *Psychological Abstracts*, which has few precoordinated terms, has the descriptor HANDICAPPED (ATTITUDES TOWARD).

(5) Is there moderate to high search interest in the concept subsumed under the highly posted descriptor? High search interest is always justification for creation of a new descriptor, even when retrieval is not as difficult as it is in the above examples. Only moderate search interest is needed for justification of concepts subsumed under highly posted terms, particularly when problems for retrieval exist for both manual and online searchers.

Moderately Posted Terms

Frequent use of a moderately posted term in a specific narrower sense or application is usually not a problem for the manual searcher so long as it is the logical or obvious descriptor for representing the concept/facet--particularly when other terms used to represent the components of a compound concept have either low or moderate postings and good precision. For instance, it would not be difficult for the manual searcher to locate materials on "working mothers" under either MOTHERS or WORKING WOMEN; both are moderately posted as majors and no other terms are likely coordinations for the concept "working mothers".

However, where a number of possibilities exist for indexing a concept coordinately, e.g., "professional health education", even moderate search interest is adequate justification for a new descriptor. Each aspect of the compound concept would have to be searched manually in "OR sets", and, as the "OR sets" become more and more extensive online, precision becomes problematical.

3.4.2 Concepts "Forced"

When concepts appear in the literature for which there are no descriptors, indexers have two options: either assign the concept as an identifer or assign the nearest approximate descriptor, though this may violate the intended meaning as evidenced by the descriptor display. Life, production deadlines and shipment schedules being what they are, both of these options have been overused.

Where descriptors have long histories of use in a sense other than that originally intended, the best decision will often be to restructure the descriptor display--the scope note, the hierarchical assignment, the RT's--to reflect that broader meaning and usage. The literature tagged by the descriptor must be the final authority on what the descriptor means. For instance, In the example below, the evidence of the BT and the RT's clearly shows that the descriptor was intended to mean "cooperative" in the sense of COOPERATIVE EDUCATION, that is, cooperative school/employer vocational programs.

```
COOPERATIVE PROGRAMS                   JUL66
 UF  CO OP PROGRAMS
 BT  WORK EXPERIENCE PROGRAMS
 RT  CONSORTIA
     COOPERATIVE EDUCATION
     DUAL ENROLLMENT
     OFF THE JOB TRAINING
     SCHOOL INDUSTRY RELATIONSHIP
     SHARED SERVICES
     WORK STUDY PROGRAMS
```

Cooperative Programs

Campus and Forum; Third Annual Review, 1968-69.
ED 036 264

Cooperative College-School Science Program, Projects to Improve Science and Mathematics in the Schools, 1969 Directory.
ED 034 684

Cooperative Staff Development---A Possible Approach for Small Schools.
ED 034 628

Elementary School Guidance Cooperative for Small School Districts.
ED 033 776

Part-Time Entry Job Survey of Prairie Grove, Arkansas.
ED 035 486

Proceedings of Symposium on Education and Federal Laboratory-University Relationships.
ED 032 826

A Program of Orientation and In-Service Education of Cooperating Teachers.
ED 035 591

A Program of Research and Development For Tennessee Designed to Bring Together All Available Research Resources to Support A Continuing Program of Vocational Education. Final Report.
ED 035 766

A Study on the Continuing Education of Teachers.
ED 036 487

Teacher Education and Job Corps Cooperative Project.
ED 035 590

A Working Conference on Cooperative Programs Among Universities and Predominantly Negro Colleges (Atlanta, Ga., August 20-21, 1965).
ED 034 016

The descriptor always has (the above postings are from 1970) and still is being used for any kind of cooperative program, hence it should be moved in the PROGRAMS hierarchy and be restructured accordingly.

In cases where a descriptor is used primarily in the sense intended and only secondarily in a broader or different sense, the frequency of both concepts in the literature and search interest must be assessed to determine whether a new term is needed for the secondary concept. If descriptors are not warranted for both concepts, then the descriptor should be scoped and restructured as necessary to incorporate both concepts. If the volume of the literature, search interest, and/or problems of separate retrievability online warrant it, then a new term must be established for the secondary concept. The use of TEST CONSTRUCTION for indexing of materials on the design and construction of questionnaires and rating scales is a good example of a situation where a new term is definitely needed. See Section 4.6.3.

3.4.3 Ambiguous Terms and Homographs

Every effort must be made in the Vocabulary Improvement Project to introduce precision where ambiguity and multi-meaning exist in the Thesaurus. The two mechanisms for increasing precision are:

- addition of scope notes
- splitting out separate and distinct concepts posted to the same descriptor

Scope notes will take care of many problems by defining, limiting, or enlarging conceptual scope of a descriptor. Scope notes can also resolve some problems of multi-meaning by explicitly authorizing dual usage where (a) the term has always been used in two senses and (b) this has not caused any problem for retrieval. This possibility may prove useful for those "relational homographs" which result when meaning changes according to the direction of the relationship between the component concepts, e.g., COMMUNITY SUPPORT may mean either "support by the community" or "support of the community". Examples of "double" scope notes are provided in Section 4.6.2.

Not all problems will be so easily resolved. When the scope of a descriptor is unclear, it is bound to be used poorly in both indexing and searching. Ratings and comments on the Descriptor Review Forms will alert you to serious cases of ambiguity and multi-meaning; the means of resolving them will depend on what you find in examining the literature posted to each term.

In examining titles indexed by a descriptor you should try to get a good overview of the range of subjects found there. If the titles seem disparate, look deeper for an underlying focus. You may find that the same fundamental concept is being applied in different contexts.

The descriptor PERFORMANCE CONTRACTS provides a good illustration of the gradual enlargement of a term's conceptual scope. Established in 1971 for the indexing of materials about the original Office of Economic Opportunity experiments with private firms guaranteeing certain levels of student achievement, recent use has expanded to incorporate many kinds of contracts used as incentives for stated levels of performance or achievement, including

- student learning contracts
- teacher/administrator performance appraisal
- teacher certification
- institutional accreditation
- contingency management
- union contracts, etc.

examples

Performance Contracts
Applying MBO to School Systems: A Case Study.
ED 100 040
Consideration of Skill Development in the EPDA Summer Training Sessions.
ED 102 106
Contingency Management as a Means of Reducing School Truancy.
ED 099 700
A Contract Approach to a Fundamentals of Speech Course.
ED 097 744
Differentiated Staffing: The Second Generation.
ED 100 896
Downtown Learning Center. Profiles of Promise 31.
ED 100 733
Legislation by the States: Accountability and Assessment in Education. Revised. Report No. 2. Bulletin No. 3100.
ED 098 681
Management by Objectives in Fresno Unified School District.
ED 096 767
Performance Contracting: Problem Definition and Problem Resolution.
ED 100 9[illegible]4
Reciprocal Contracting with Families of Adolescents.
ED 101 222

Performance Contracts
Change in Education. Insights from Performance Contracting. A Rand Education Policy Study.
ED 119 373//
Contingency Management and Student Motivation.
ED 119 042
Contracting for Learning.
ED 126 810
Contracting Materials.
ED 126 989
Employment by Faculty Contract. Hampshire College Progress Report. No. 1.
ED 124 030
Individualizing Education through Contract Learning.
ED 119 339//
MAP [Mutual Agreement Program] Program Outcomes in the Initial Demonstration States: An Evaluative Summary of Research. Resource Document Number 7.
ED 120 644
The Planned Implementation of Mutual Agreement Programming in a Correctional System. Resource Document #9: Manual.
ED 122 057

ED 093 039
1972 Legislation and Achievements: Nonpublic Education. Regulation and State Aid, Performance Contracts, Voucher Systems. Research Brief No. 7.
ED 081 100
1973-74 Performance Objectives for Kalamazoo Public Schools.
ED 093 040
Accountability--Is "Competitive Partnership" the Answer?
ED 089 240
Analysis of a Contract Approach in a Graduate University Course.
ED 091 345
Considerations in Planning and Managing Performance Contracting for Education. A Working Note.
ED 088 144
Contracting Handbook: Students' Step-By-Step Guide. Community College of Vermont.
ED 082 734
Creature Features.
ED 092 973
Empire State College Learning Contracts. Report of the President's Advisory Committee on Academic Quality.
ED 081 314
[illegible] Economics: A Process To Compensate Teachers Based on Evaluation of Student Accomplishment of Instructional Objectives.
ED 082 349
A Guide to Writing Learning Contracts.
ED 088 385
How To Evaluate Your Administrative Staff.
ED 093 043
Measuring Reading Performance.
ED 094 358
Mobius Strips, Perquackey, and the Dutch Chocolate Apple.
ED 080 921
Performance Contracting: A Balanced View.
ED 083 709
Preparing "Learning Activity Packets" for Individualized Instruction: "Student Contracts" Approach.
ED 081 284
A Rationale and Application of Contract Grading for Use in the Interpersonal Communication Course.
ED 090 612
Should Performance Contracts Replace Tenure?
ED 087 124

Performance Contracts
Certification Through Performance Projects--Emporia Kansas State College Teacher Corps Project: The Performance Project Model for Field-Centered, Competency-Based Post Graduate Certification.
ED 134 572
Educational Improvement Process for Accreditation by Contract.

The situation illustrated by these examples of postings is not one of ambiguity, nor is PERFORMANCE CONTRACTS a homograph. It merely requires proper scoping--at a very broad level--to accommodate both these and future applications of the concept. PERFORMANCE CONTRACTS is low to moderately posted; if it were highly posted, new NT's should be split out, e.g. TEACHER PERFORMANCE CONTRACTS, LEARNING CONTRACTS. The descriptor EDUCATIONAL OBJECTIVES is a good example of a term requiring NT's; as a very highly posted term, manual searching to locate a specific application of the concept is tedious in the extreme.

Concepts used in varying applications must be carefully distinguished from true homographs, both subject and form, and from those descriptors which *in their use in indexing* have little or no solid core of meaning.

Subject Homographs

Subject homographs are descriptors which have been used to represent two or more entirely distinct concepts. Usually, to qualify as a true homograph, the two concepts will not be closely related. The use of a descriptor to represent two or more closely related concepts should be treated as suggested in Section 3.2.2.

Some subject homographs cannot be identified except by examing the postings, but in other cases the descriptor display, and especially the RT's, will provide clues. When some RT's are clearly unrelated to the others, or when they seem to divide by disciplinary areas, a homograph should be suspected.

```
CLASS ATTITUDES                        JUL66
 BT  ATTITUDES
 RT  ANTI INTELLECTUALISM
     CLASSES (GROUPS OF STUDENTS)
     PROGRAM ATTITUDES
```

In this example, the RT's suggest that the word "class" may be used both in the sense of "students in the classroom" and "social class". This is confirmed by the postings:

```
-4-
TI  - CLASSROOM CLIMATE
IT  - CLASSROOM ENVIRONMENT; ◆CLASS ATTITUDES; ◆CLASSROOM COMMUNICATION; CLASS
      ORGANIZATION; ◆HIGHER EDUCATION: ◆INDIANS; PEER RELATIONSHIP; ◆STUDENT
      TEACHER RELATIONSHIP; ◆TEACHER ROLE

-5-
TI  - A NEW PARADIGM FOR THE MATHEMATICS CLASSROOM
IT  - ◆COLLEGE MATHEMATICS; ◆CLASS ATTITUDES; CALCULUS; GROUP ACTIVITIES;
      HIGHER EDUCATION: ◆INSTRUCTION: ◆MATHEMATICS EDUCATION; ◆STUDENT
      PARTICIPATION; STUDENT INTERESTS; TESTING
-6-
TI  - AN INVESTIGATION OF CLASS ACTION LITIGATION IN A SCHOOL DESEGREGATION
      CASE: WHAT COMPRISES CLASS MEMBERSHIP?
IT  - COUPT LITIGATION: ◆CLASS ATTITUDES; ELEMENTARY SECONDARY EDUCATION;
      ◆INTEGRATION LITIGATION; ◆PARENT ATTITUDES; RACIAL FACTORS;
      ◆SOCIOECONOMIC STATUS; ◆SURVEYS; TABLES (DATA)

-7-
TI  - ATTITUDES TOWARD THE AGED AS A FUNCTION OF RACE AND SOCIAL CLASS
IT  - AGE DIFFERENCES; ◆ATTITUDES; ◆CLASS ATTITUDES; ◆OLDER ADULTS; ◆RACIAL
      FACTORS; RESEARCH PROJECTS; ◆SOCIOECONOMIC INFLUENCES; SOCIAL,ATTITUDES
-10-
TI  - SUCCESS VALUES: ARE THEY UNIVERSAL OR CLASS-DIFFERENTIATED?
IT  - ◆CLASS ATTITUDES; ◆EXPECTATION: HIGH SCHOOL STUDENTS; ◆SOCIAL
      DIFFERENCES; STATUS; ◆SUCCESS FACTORS; ◆VALUES

-11-
TI  - PERCEIVED POWERLESSNESS AND SENSITIVITY TO CONTENT TYPES
IT  - ◆CLASS ATTITUDES; CONTENT ANALYSIS; ◆INFORMATION SOURCES; ◆MEDIA
      RESEARCH; ◆PPOGRAM CONTENT; ◆PROPAGANDA; PUBLICIZE

-12-
TI  - THE INFLUENCE OF ATTITUDES ON RESULTS IN SHORTHAND CLASSES
IT  - ◆BUSINESS EDUCATION; BUSINESS SUBJECTS; ◆CLASS ATTITUDES; HIGH SCHOOL
      CURRICULUM: LEARNING MOTIVATION; ◆STENOGRAPHY; ◆TEACHING TECHNIQUES

-13-
TI  - TRADES AND OTHER VOCATIONS: WHY THE STIGMA?
IT  - ◆CLASS ATTITUDES; OPINIONS; ◆SOCIAL STRUCTURE: SOCIAL VALUES; ◆STUDENT
      ATTITUDES; ◆VOCATIONAL EDUCATION; ◆WORK ATTITUDES

-15-
TI  - USE OF THE SEMANTIC DIFFERENTIAL TECHNIQUE TO STUDY ATTITUDES DURING
      CLASSROOM LESSONS
IT  - ◆CHANGING ATTITUDES; ◆CLASS ATTITUDES; ◆CLASSROOM OBSERVATION TECHNIQUES;
      ◆EDUCATIONAL RESEARCH
```

The following should be considered in actions on homographs.

- o Is the descriptor used primarily in one sense and only occasionally in the other? Are there other descriptors available for representing the second meaning? If so, scope the term to restrict it to the primary meaning, or alter the form of the main term to so restrict it. In the case above CLASS ATTITUDES could be deleted and transferred to a new term SOCIAL CLASS ATTITUDES. The RT's and other display elements would have to be restructured accordingly. In addition, the cautionary note "prior to _____ the use of this term was not restricted by a scope note" should be added. The term STUDENT ATTITUDES is sufficient for representing the secondary usage, and information loss for the few citations posted to CLASS ATTITUDES is of minor importance.

- o Is the descriptor used in each sense about equally? Are there other descriptors suitable for representing either concept? It may be necessary to:

  (a) delete the descriptor and establish two new descriptors, e.g. CLASS ATTITUDES (SOCIAL)
  CLASS ATTITUDES (SCHOOL)
  (b) Retain all postings under the form reflecting the greater use, or greater use as a major, and add the note "prior to ______ the use of this term was not restricted by a qualifier"; retain the original add date of the term
  (c) transfer to the second descriptor a few recent major postings

- o Is the descriptor heavily posted? Is it used frequently in both senses? Consult with the Lexicographer or the Project Coordinator. Serious information loss must be avoided, but the remedy will depend on the particular case.

Form Homographs

Many descriptors have been used to represent both subject concepts and document "form" or "pubtype". QUESTIONNAIRES, FOLLOWUP STUDIES, and GOVERNMENT PUBLICATIONS are familiar examples. Others, such as CURRICULUM GUIDES, are less likely as subject concepts.

The "research homographs"--READING RESEARCH, LANGUAGE RESEARCH, NATIONAL SURVEYS, etc.--are similarly used to represent both subject concepts and types of documents. The "research methodology homographs", such as MULTIPLE REGRESSION ANALYSIS, ANALYSIS OF VARIANCE, CONTROL GROUPS, PRETESTS, etc., present a slightly different case; while not "form" or "pubtype" descriptors, they are used both as subject concepts and to represent the methodologies employed in studies.

Actions on terms in these categories must wait until the details of the new PUBTYPE field are resolved. What is done with these descriptors in the VIP depends to a great extent on whether or not the PUBTYPE field is extended to *CIJE*. The issue of the "research methodology" terms has also not been decided.

An attempt was made in the allocation of VIP assignments to segregate these terms--the "form" terms were set aside for the Lexicographer (AA), the "research methodology" terms went to TM, and the "research homographs" were assigned to JC. However, it is quite likely that descriptors in these categories, and others used similarly but perhaps not recognized as such, can be found in various clearinghouse assignments. Each clearinghouse must be on the lookout for descriptors whose postings are both about X and are examples of X. Instructions on dealing with such terms will be sent out when the issues have been resolved.

Ambiguous Terms

Ambiguous terms are generally of two kinds: (1) descriptors which, because of lack of scope notes or incomplete displays, have uncertain meaning; and (2) descriptors which, because of near-synonymity or other conceptual problems in their relationship to the educational disciplines and literatures have uncertain usage.

Both types will be handled primarily by scope notes. Occasionally deletion may be preferrable for the second type. Examples and suggestions are given in Section 4.6 for handling descriptors showing high scattering in their usage.

In some instances, however, the best way to deal with variance in usage will be by identifying definable concepts among the postings, and, as warranted by frequency and other alternatives, establishing these as new descriptors. This may help define a useful scope for the ambiguous term, or it may allow its deletion.

3.5 PROCEDURES FOR NEW DESCRIPTORS

Procedures for establishing new descriptors in the VIP do not differ from ordinary DJF preparation: authorities must be consulted, a definition must be provided if a scope note is not needed, etc. But because new terms will usually stem from existing problem situations, the following reminders may be helpful.

(1) Look up each word of the proposed new term in the *VIP Rotated Display* to be sure there is no conflict.

(2) For new NT's of highly or moderately posted terms or new terms previously "forced" in indexing:

- Transfer any existing UF's that are synonymous with the new term--delete them from the existing descriptor and add them to the proposed new descriptor (after checking them in the *VIP Rotated Display*, of course);

- If the new term was previously a UF be sure to add a note--either as a scope note (where a definitional scope note is not needed) or following the scope note--stating that "prior to _____ the instruction "_________, use __________" was carried in the thesaurus", e.g.,

  SCHOOL BUSINESS OFFICIALS
  SN NOTE: PRIOR TO THE INSTRUCTION "SCHOOL
  BUSINESS OFFICIALS, USE ADMINISTRATIVE PERSONNEL"
  WAS CARRIED IN THE THESAURUS

  These notes will lead searchers to the proper term for retrieving older postings.

(3) Where the new term was not previously a UF and the existing descriptor is not appropriate as a BT, make sure it is included in the display as an RT. Depending on the volume of previous postings reflecting the concept, it may be necessary to make an explicit historical instruction concerning their retrieval. However, such notes should only be made when absolutely necessary to retain access. For an example, see page 70.

(4) Where a retrieval problem necessitating a new term is not obvious, append printouts showing irretrievability online (poor recall, 50% false drops, etc., in free text searching) or samples of postings/resumes, and/or explain the problem in the justification.

(5) For instructions on submission of postings for new terms, see Section 1.5.3.

SECTION 4: SCOPE NOTES

SECTION OUTLINE

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SECTION 4: SCOPE NOTES

4.1 DEFINITION AND FUNCTION

Scope notes may be definitional, instructional, or both. As definitions, scope notes define terms for the purposes of, and in accordance with, their use in ERIC indexing. In a broader sense, definitional scope notes are guides to what will be retrieved by a descriptor.

Instructional scope notes direct the user to other terms (both descriptors and identifiers), indicate proper coordinations, provide historical notes on changes in usage or reference structure, or otherwise guide and explain preferred usage for both indexing and retrieval.

4.2 RULES FOR SCOPE NOTES

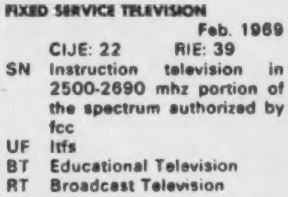
1. Scope notes are limited to 380 characters and intervening blanks, including one blank counted at the end of each line.

2. A line in a scope note may not end in a hyphen.

3. Any characters in the ERIC character set may be used except semi-colons. These are an ERIC field delimiter, and although they are acceptable in the programs used for the Working Copy of the Thesaurus, they are not acceptable in the programs of the *CIJE* contractor. (Compare scope notes for MASTERY LEARNING and ERROR ANALYSIS (LANGUAGE) in the published and working editions.) Use a dash (--) in place of a semi-colon.

4. Scope notes may not end in a period (.).

5. Scope notes should not include acronyms. The programs for the published edition of the Thesaurus will accept only one initial capital. Names of persons, places, etc., appear in lower case only. While this is not a barrier to understanding, acronyms in lower case are very confusing.



FIXED SERVICE TELEVISION
Feb. 1969
CIJE: 22 RIE: 39
SN Instruction television in
2500-2690 mhz portion of
the spectrum authorized by
fcc
UF Itfs
BT Educational Television
RT Broadcast Television

6. Scope notes should be written to reflect the broadest meaning of the concept consistent with precision, and should not be limited to an application of the concept even if the postings are limited primarily to that application.

4.3 CRITERIA FOR NEEDED SCOPE NOTES

Scope notes are needed in the Thesaurus for all descriptors in the following categories:

1. Fundamental concepts appearing frequently in the Thesaurus in precoordinated descriptors, e.g., ABILITY.

2. True homographs.

```
INTEREST                                  JUL66
 SN  THE PRICE PAID FOR THE USE OF MONEY
     OVER TIME
```

3. Near-synonyms and descriptors containing component words that may be synonymous in some contexts.

```
LANGUAGE HANDICAPPED                      JUL66
 SN  PERSONS WITH RECEPTIVE OR
     EXPRESSIVE LANGUAGE DEFECTS (NOTE:
     USE "SPEECH HANDICAPPED" FOR
     PERSONS WITH DEFECTS OF PERIPHERAL
     SPEECH MECHANISMS)
```

4. Descriptors that include words which the Thesaurus' "terminology terrain" shows are near-synonyms.

5. Terms used in ERIC in a sense other than that commonly understood.

```
LABORATORY TRAINING                       JUL66
 SN  METHOD OF TRAINING DESIGNED TO
     FACILITATE SELF INSIGHT, PROCESS
     AWARENESS, INTERPERSONAL
     COMPETENCE, AND DYNAMICS OF CHANGE
```

6. Terms not used in common discourse, even if used in the literature, e.g., INTERPERSONAL COMPETENCE.

7. Technical terms, even if commonly known among subject experts most likely to utilize the literature posted to the term. (Consider the position of the intermediary search service, reference librarian, etc.)

```
SEMANTIC DIFFERENTIAL                     OCT72
 SN  A METHOD OF MEASURING ATTITUDES
     AND/OR VALUES THROUGH THE USE OF
     PAIRS OF BIPOLAR ADJECTIVES
```

8. Terms requiring historical notes, instructions for coordination or reference to other descriptors or identifiers, or otherwise requiring explanation of usage.

```
SECURITY (PSYCHOLOGY)                     MAR78
 SN  BEING OR FEELING FREE FROM RISK OR
     UNCERTAINTY (NOTE: THE DESCRIPTOR
     "SECURITY," WITHOUT THE
     PARENTHETICAL QUALIFIER, WAS USED
     FROM 1967 TO MAR78)
```

4.4 CRITERIA FOR EVALUATING EXISTING SCOPE NOTES

1. Is the scope note clearly worded and understandable?

```
ATTRIBUTION THEORY                    OCT76
 SN  THEORY FOCUSING ON SPECIFIC
     BEHAVIOR AS CAUSED BY THE SUBJECT'S
     ATTRIBUTIONS TO THE PERCEIVED
     CAUSES OF SUCH BEHAVIOR
```

```
ASPIRATION                                  JUL66
 SN  DESIRE TO ACCOMPLISH WHAT ONE SETS
     OUT TO DO
```

2. Does the scope note avoid circular definitions and synonyms?

```
BEHAVIOR                                JUL66
 SN  THE EXTERNALLY APPARENT BEHAVIOR OF
     THE WHOLE ORGANISM
```

```
CORRECTIVE READING                        JUL66
 SN  READING INSTRUCTION FOR RETARDED
     READERS WITHIN A REGULAR CLASS. FOR
     HANDICAPPED READERS SEE REMEDIAL
     READING
```

3. Does the scope note carefully distinguish the scope from that of closely related descriptors? Does it have precision?

```
MANAGEMENT DEVELOPMENT                JUL66
 SN  BROAD EDUCATIONAL PROGRAM TO
     INCREASE PERSONAL, INTERPERSONAL,
     MANAGERIAL, AND TECHNICAL
     COMPETENCIES OF MANAGERS
```

```
LABORATORY TRAINING                       JUL66
 SN  METHOD OF TRAINING DESIGNED TO
     FACILITATE SELF INSIGHT, PROCESS
     AWARENESS, INTERPERSONAL
     COMPETENCE, AND DYNAMICS OF CHANGE
```

```
MANAGEMENT EDUCATION                  JUL66
 SN  EDUCATIONAL PROGRAM TO INCREASE
     MANAGERIAL AND SUPERVISORY SKILLS
     OF MANAGERS AND MANAGEMENT TRAINEES
```

```
SENSITIVITY TRAINING                      JUL66
 SN  METHOD OF INCREASING QUALITY AND
     SKILLS OF INTERPERSONAL INTERACTION
     THROUGH THE USE OF PRIMARY GROUP
     PROCESSES AS A MEANS OF LEARNING
     AND REEDUCATION
```

```
LEARNING SPECIALISTS                  JUL66
 SN  PERSON WHO ASSUMES LEADERSHIP OF AN
     INSTRUCTION UNIT AND IS RESPONSIBLE
     FOR THE LEARNING EFFICIENCY OF THE
     STUDENTS
```

(how is this different from "teachers"?)

```
FILING                                JUL69
 SN  SYSTEMATIC ARRANGEMENT
```

(how is this different from virtually anything?)

4. Is the scope note consistent with the postings?

```
HOMEBOUND                             JUL66
 SN  STATUS OF PERSON RECEIVING
     INSTRUCTION CONFINED TO DOMICILE
```

Homebound

Extending Public Library Services to the Homebound, *American Libraries* v1 n5, pp485-489, May '70 EJ 028 714

Our Other Customers--Shut Ins: Consider the Confined; Methods of Reaching In, *Wilson Library Bulletin* v45 n5, pp485-489, Jan '71 EJ 032 330

Program Profiles: Dental Care for the Handicapped, *Mental Retardation* v9 n1, pp59-61, Feb 71 EJ 037 972

Exploring the Widening Circle: Recent Developments in the Rehabilitation of Homebound Persons, *Rehabilitation Literature* v32 n7, pp194-207, Jul 71 EJ 040 860

5. Is the scope note consistent with the meaning of the NT's?

6. Is the scope note consistent with the descriptor's hierarchy?

```
PROJECT TRAINING METHODS           AUG68
 SN  PROGRAMS COMBINING CLASSROOM
     INSTRUCTION OR VOCATIONAL
     INSTRUCTION WITH SUPERVISED AND
     COORDINATED LABORATORY ACTIVITIES
 UF  PROJECT METHOD
     PROJECT PLAN
 BT  TRAINING TECHNIQUES
 RT  COOPERATIVE EDUCATION
     LEARNING LABORATORIES
     SIMULATED ENVIRONMENT
     STUDENT PROJECTS
     TRAINING LABORATORIES
     VOCATIONAL EDUCATION
```

```
 ::::METHODS
 :::EDUCATIONAL METHODS
 ::TEACHING METHODS
 :TRAINING TECHNIQUES
PROJECT TRAINING METHODS
```

(method scoped for PROGRAMS hierarchy)

```
APPLIED MUSIC                          JUL66
 SN  VOCAL AND INSTRUMENTAL MUSIC
     PERFORMANCE INSTRUCTION
 BT  MUSIC
 RT  JAZZ
     MUSIC ACTIVITIES
     MUSIC EDUCATION
     ORCHESTRAS
     SINGING
```

```
 ::::LIBERAL ARTS
 :::HUMANITIES
 :::ART
 ::FINE ARTS
 :MUSIC
APPLIED MUSIC
```

(curriculum concept scoped for INSTRUCTION hierarchy)

4.5 MODELS

4.5.1. Instructional Scope Notes

(1) "USE ANOTHER TERM..."

```
LANGUAGES                                JUL66
 SN  USE A MORE SPECIFIC TERM IF
     POSSIBLE
```

("use a more specific term where possible" may be preferable)

```
PROGRAM VALIDATION                       MAR77
 SN  DEMONSTRATION OF THE WORTH OF A
     PROGRAM IN ATTAINING ITS
     OBJECTIVES, INCLUDING VERIFICATION
     OF CLAIMS MADE FOR IT BY ITS
     SPONSORS (NOTE: USE "PROGRAM
     EVALUATION" IF VALIDITY OF PROGRAM
     IS YET TO BE SUBSTANTIATED BY
     IMPARTIAL EVALUATOR)
```

```
INVENTIONS                              MAR76
 SN  ORIGINAL PRODUCTS OR PROCESSES
     (THINGS NOT PREVIOUSLY EXISTING)
     DEVELOPED BY CREATIVE THOUGHT OR
     EXPERIMENTATION -- (NOTE: FOR
     "DISCOVERIES," SEE THE DESCRIPTOR
     "DISCOVERY PROCESSES")
```

(2) "SEE ALSO..., ALSO SEE..., FOR...SEE"

```
UNCOMMONLY TAUGHT LANGUAGES        JUL66
 SN  LANGUAGES NOT GENERALLY OFFERED FOR
     INSTRUCTION IN THE UNITED STATES
     EDUCATIONAL SYSTEM. ALSO SEE THE
     SPECIFIC LANGUAGE, E.G., TURKISH,
     OR THE LANGUAGE FAMILY, E.G.,
     URALIC ALTAIC LANGUAGES
```

TONE LANGUAGES JUL66
SN A LANGUAGE HAVING LEXICALLY SIGNIFICANT, CONTRASTIVE, BUT RELATIVE PITCH ON EACH SYLLABLE. SEE AFRICAN LANGUAGES AND SINO TIBETAN LANGUAGE FAMILIES FOR SPECIFIC LANGUAGES

INTERNATIONAL STUDIES AUG76
SN MULTIDISCIPLINARY FIELD OF INQUIRY CONCERNED WITH ANALYZING SOCIAL PHENOMENA THAT OCCUR WITHIN, BETWEEN, AND TRANSCENDING NATIONALLY ORGANIZED POLITICS -- COMMONLY IDENTIFIED SUBFIELDS ARE "INTERNATIONAL POLITICS," "FOREIGN POLICY," "INTERNATIONAL LAW," "INTERNATIONAL ORGANIZATION," "INTERNATIONAL ECONOMICS," AND "COMPARATIVE AREA STUDIES"

(without being explicit)

(3) "SEE ALSO ...IDENTIFIER"

EQUIVALENCY TESTS AUG68
SN TESTS TO MEASURE THE EXTENT TO WHICH PREVIOUS SCHOOLING, KNOWLEDGE, OR EXPERIENCE SATISFIES COURSE OR JOB REQUIREMENTS (NOTE: SEE ALSO THE IDENTIFIER "GENERAL EDUCATIONAL DEVELOPMENT TESTS"; PRIOR TO SEP77, THE INSTRUCTION "GED TESTS, USE EQUIVALENCY TESTS" WAS CARRIED IN THE THESAURUS)

(4) "COORDINATE WITH..."

POLITICS OCT71
SN ACTIVITIES CONCERNED WITH GUIDING OR INFLUENCING GOVERNMENTAL POLICY, INCLUDING WINNING AND HOLDING CONTROL OVER A GOVERNING BODY (COORDINATE WITH OTHER TERMS FOR THE CONCEPT POLITICS OF EDUCATION)

(the problem here is, what other terms?)

HEARINGS SEP77
SN SESSIONS IN WHICH WITNESSES ARE HEARD AND TESTIMONY IS RECORDED (NOTE: FOR U.S. CONGRESSIONAL HEARINGS, COORDINATE "HEARINGS" WITH SUCH IDENTIFIERS AS "CONGRESS," "CONGRESS 95TH," ETC.)

(example--"such...as")

(5) "USE FOR..."

SEX FAIRNESS Aug. 1978
SN Not discriminating on the basis of sex (Note: Use for descriptions of materials, procedures, activities, or programs which treat the sexes equitably).

(6) "DO NOT CONFUSE WITH..."

```
DISCOVERY PROCESSES                JUL66
 SN  ASCERTAINING SOMETHING EXISTING BUT
     NOT YET KNOWN (NOTE: DO NOT CONFUSE
     WITH "INVENTIONS")
```

(7) "ONLY WHEN..."

```
REPORTS                            MAY69
 SN  ONLY WHEN USED AS A SUBJECT CONCEPT
     IN DOCUMENT
```

4.5.2 Historical Notes

(1) Previous UF established as Main Term

```
REDUCTION IN FORCE                 MAR77
 SN  REDUCTION IN THE TOTAL NUMBER OF
     PEOPLE EMPLOYED BY AN ORGANIZATION
     -- INCLUDES SUCH METHODS AS LAYING
     OFF PERSONNEL, CREATING EARLY
     RETIREMENT OPTIONS, TRANSFERRING
     PERSONNEL, AND NOT FILLING OPENINGS
     CREATED THROUGH NORMAL STAFF
     ATTRITION (NOTE: PRIOR TO MAR77,
     THE INSTRUCTION "REDUCTION IN
     FORCE," USE "JOB LAYOFF" WAS
     CARRIED IN THE THESAURUS)
 BT  JOB LAYOFF
```

FUND RAISING Feb. 1978
SN Identifying, soliciting, acquiring, and cultivating financial resources (Note: Prior to Feb78, the instruction "Fund Raising, use Financial Support" was carried in the Thesaurus).

(2) Significant change in scope

```
POST SECONDARY EDUCATION           JUL66
 SN  ALL EDUCATION BEYOND THE SECONDARY
     LEVEL -- INCLUDES LEARNING
     ACTIVITIES AND EXPERIENCES BEYOND
     THE COMPULSORY SCHOOL ATTENDANCE
     AGE WITH THE EXCEPTION OF ADULT
     BASIC EDUCATION AND HIGH SCHOOL
     EQUIVALENCY PROGRAMS (BEFORE APR75,
     SCOPE NOTE RESTRICTED TO: EDUCATION
     BEYOND GRADE 12 AND LESS THAN THE
     BACCALAUREATE LEVEL)
```

(3) Previous usage varies or may vary
(Useful for dealing with a term that has been used inconsistently--to restrict it to one meaning when it has been used primarily in that sense, or when new descriptors are added for the other sense(s) in which it has been used.)

```
SECURITY (PSYCHOLOGY)              MAR78
 SN  BEING OR FEELING FREE FROM RISK OR
     UNCERTAINTY (NOTE: THE DESCRIPTOR
     "SECURITY," WITHOUT THE
     PARENTHETICAL QUALIFIER, WAS USED
     FROM 1967 TO MAR78)
 UF  EMOTIONAL SECURITY
```

FIELD EXPERIENCE PROGRAMS JUL66
SN PRACTICAL EXPERIENTIAL LEARNING ACTIVITIES UNDER INSTITUTIONAL OR ORGANIZATIONAL SPONSORSHIP, USUALLY AWAY FROM THE CLASSROOM OR CAMPUS -- ASSOCIATED MOST OFTEN WITH GRADES 10-16, AND CHARACTERIZED AS LESS FORMAL AND CONCENTRATED THAN PROFESSIONAL INTERNSHIP PROGRAMS (NOTE: BEFORE JUN78, THE USE OF THIS TERM WAS NOT RESTRICTED BY A SCOPE NOTE)

(note how this distinguishes a closely related concept)

4.5.3 Notes Indicating a Range of Possible Applications or Subsumed Concepts

(1) "INCLUDES..." Scope Notes

CONTROLLED ENVIRONMENT JUL66
SN TEMPERATURE, HUMIDITY, AND LIGHT

(just the facts, Ma'am)

AMERICAN HISTORY JUL66
SN HISTORY OF THE PEOPLE OF SOUTH, NORTH, AND CENTRAL AMERICA

ANNUAL REPORTS JUL66
SN INCLUDES DATA ON PROGRESS, FINANCE, MATERIAL, PERSONNEL, INSTRUCTION, ETC.

MECHANICS (PHYSICS) MAR73
SN THE SCIENCE THAT DEALS WITH THE EFFECTS OF ENERGY AND FORCE ON THE EQUILIBRIUM, DEFORMATION, OR MOTION OF SOLID, LIQUID, AND GASEOUS BODIES -- INCLUDES BOTH CLASSICAL (NEWTONIAN) AND MODERN (ATOMIC-LEVEL) MECHANICS

NONINSTRUCTIONAL STUDENT COSTS DEC75
SN COSTS MET BY STUDENTS THAT ARE NOT INSTRUCTIONAL COSTS (TUITION, ETC.) BUT ARE NECESSARY IN THE PURSUIT OF AN EDUCATION -- INCLUDES ROOM AND BOARD, TRANSPORTATION EXPENSES, BOOK COSTS, PERSONAL EXPENSES, FORGONE INCOME, ETC.

(note how this distinguishes from its antonym)

LANGUAGE MAINTENANCE Oct. 1977
SN The maintenance of a given language rather than its displacement by another language (includes maintaining the languages of cultural minority groups through family practices, rituals, concerted educational endeavors with society at large, etc.).

(2) "Example" Scope Notes--"E.G.", "SUCH AS..., AS IN..."

ARTIFICIAL LANGUAGES JUL73
SN LANGUAGES CREATED FOR INTERNATIONAL COMMUNICATION, E.G., ESPERANTO AND INTERLINGUA

ELIGIBILITY Aug. 1978
SN Qualifying for certain benefits or services (e.g., student eligibility for financial aid, institutional eligibility for accreditation, family eligibility for welfare assistance, employee eligibility for retirement)

ALTERNATIVE SCHOOLS OCT72
SN SCHOOLS BOTH WITHIN AND OUTSIDE THE PUBLIC SCHOOL SYSTEM THAT OFFER ALTERNATIVES TO TRADITIONAL EDUCATIONAL CONCEPTS AND PRACTICES, E.G. STUDENT INITIATED LEARNING PROCESS, INQUIRY-DISCOVERY APPROACH, AND SHARED PROBLEM SOLVING AND DECISION MAKING

ASIAN STUDIES MAR73
SN STUDIES, USUALLY INTERDISCIPLINARY IN APPROACH, OF SUCH GEOGRAPHIC AREAS AS ASIATIC U.S.S.R., BANGLADESH, BHUTAN, CEYLON, CHINA, INDIA, INDONESIA, JAPAN, KOREA, MALDIVE ISLANDS, MONGOLIA, NEPAL, PAKISTAN, THE PHILIPPINES, SIKKIM, AND THE SOUTHEAST ASIAN SUBCONTINENT

NEW JOURNALISM DEC74
SN REPORTING WHICH COMBINES TRADITIONAL JOURNALISM TECHNIQUES WITH SUCH DEVICES OF FICTION WRITING AS: SCENE BY SCENE RECONSTRUCTION OF SETTINGS, RECORDING OF DIALOGUE, USE OF THIRD PERSON POINT-OF-VIEW, AND EXTENSIVE RECORDING OF EXTERNAL CHARACTERISTICS OF INDIVIDUAL CHARACTERS -- EMPHASIS IS ON CAPTURING THE "CONCRETE REALITY" OR "IMMEDIACY" OF CULTURAL PHENOMENA

DEVELOPMENTAL STAGES OCT76
SN NATURAL OR COMMON DIVISIONS OF THE HUMAN DEVELOPMENTAL PROCESS, CHARACTERIZED BY TYPES OF BEHAVIOR (AS IN THE ORAL STAGE), BY BIOLOGICAL PROPERTIES OR MANIFESTATIONS (AS IN THE EMBRYONIC STAGE), OR BY MENTAL PROCESSES (AS IN PIAGET'S "CONCRETE OPERATIONS" STAGE)

(3) "Excludes" Scope Notes--"OTHER THAN..." and "NOT"

"Includes" and "example" scope notes are similar in that they indicate scope by providing lists of subsumed concepts or by providing examples of possible applications. Sometimes it is easier to define scope by stating what is excluded. This is an excellent way of both pointing to and distinguishing from the descriptor representing the excluded concept.

AUDIOVISUAL AIDS JUL66
SN MATERIALS INVOLVING MEDIA OTHER THAN THE PRINT MEDIUM AND WHICH ARE NOT TEXTUAL OR BOOK-LIKE IN NATURE

EMPLOYEE ATTITUDES JUL66
SN ATTITUDE OF EMPLOYEES ON ANY
SUBJECT OTHER THAN WORK ATTITUDES

INSERVICE EDUCATION JUL66
SN EDUCATIONAL COURSES OR PROGRAMS TO
PROVIDE ADVANCED STUDY TO
PROFESSIONAL PERSONS IN FIELDS
OTHER THAN TEACHING

NONPROFIT ORGANIZATIONS JAN78
SN ORGANIZATIONS NOT DESIGNED
PRIMARILY TO PAY DIVIDENDS ON
INVESTED CAPITAL (NOTE: PRIOR TO
DEC77, THE INSTRUCTION "NONPROFIT
ORGANIZATIONS, USE VOLUNTARY
AGENCIES" WAS CARRIED IN THE
THESAURUS)

4.5.4 Notes That Slant Meaning or Emphasis in a Certain Direction Without Precluding Other Possibilities

"Includes", "example", and "excludes" scope notes are useful devices for dealing with the range of subject matter found among the postings of an existing descriptor. As devices for dealing with the range of characteristics--attributes, conditions, properties, or settings--associated with older terms or new concepts, words such as "usually" are an important hedge; they allow specificity and precision in definitional scope notes without unnecessarily restricting future (or past) usage on mere technicalities. "Usually" and "generally" are also helpful where definitions supplied by authorities differ or where shifts in emphasis, refinement, or further elaboration of a concept have occurred over time.

These qualifiers can be viewed as a continuum from "not-quite-absolute" to "maybe"--

(1) "ALMOST ALWAYS..."

IMMERSION PROGRAMS Aug. 1977
SN Educational programs in which all curriculum materials are taught in a second language, generally at the elementary level and almost always within the context of a first language school.

(2) "USUALLY..."

ENDOWMENT FUNDS Sep. 1977
SN Capital sums set aside as sources of income--the principal of each sum is usually left intact and invested, while the income may be expended.

RETRENCHMENT Aug. 1977
SN Reduction of costs or efforts, usually as an economic necessity.

(3) "GENERALLY..., NORMALLY..."

```
LIFETIME SPORTS                        DEC75
 SN  SPORTS WHERE PARTICIPATION CAN BE
     CARRIED ON THROUGHOUT ONE'S
     LIFETIME -- GENERALLY INCLUDES (BUT
     IS NOT NECESSARILY LIMITED TO) A
     VARIETY OF INDIVIDUAL AND DUAL
     SPORTS FOR WHICH FACILITIES ARE
     WIDELY AVAILABLE, AND BODY CONTACT
     IS LIMITED OR UNNECESSARY
```

```
LEARNING MODULES                       OCT76
 SN  PACKETS OF TEACHING MATERIALS, EACH
     CONSISTING OF BEHAVIORAL
     OBJECTIVES, A RATIONALE FOR THE
     BEHAVIOR, A SEQUENCE OF LEARNING
     ACTIVITIES, AND PROVISIONS FOR
     EVALUATION, WITH PROVISIONS FOR
     REMEDIATION GENERALLY INCLUDED
```

```
BUILDING SYSTEMS                       DEC76
 SN  ASSEMBLIES OF BUILDING SUBSYSTEMS
     AND COMPONENTS (STRUCTURAL AND
     MECHANICAL), WITH INSTRUCTIONS FOR
     PUTTING THEM TOGETHER; NORMALLY
     THESE COMPONENTS ARE MASS-PRODUCED
     AND USED FOR SPECIFIC GENERIC
     PROJECTS IN BUILDING CONSTRUCTION
```

(4) "FREQUENTLY..."

```
CAREER EXPLORATION                     SEP75
 SN  INVESTIGATING OCCUPATIONAL INTEREST
     AREAS OFTEN THROUGH REAL OR
     SIMULATED JOB EXPERIENCE --
     FREQUENTLY REFERS TO THE SECOND
     PHASE OF CAREER EDUCATION
     APPROPRIATE FOR GRADES 6 THROUGH 10
```

(5) "OFTEN..."

```
CAREER AWARENESS                       FEB75
 SN  APPRECIATION FOR AND UNDERSTANDING
     OF THE VARIETY OF TYPES OF CAREERS
     -- OFTEN REFERS TO THE INITIAL
     PHASE OF CAREER EDUCATION
     APPROPRIATE TO THE ELEMENTARY
     SCHOOL
```

```
LABOR EDUCATION                        JUL66
 SN  EDUCATION AND TRAINING OF WORKERS
     OFTEN SPONSORED BY LABOR UNIONS AND
     SOMETIMES IN COOPERATION WITH
     EDUCATIONAL INSTITUTIONS
```

(6) "SOMETIMES..."

```
ALTRUISM                               APR73
 SN  CONSIDERATION FOR THE WELFARE OF
     OTHERS, SOMETIMES IN ACCORDANCE
     WITH AN ETHICAL SYSTEM
```

```
COLLEGE GOVERNING COUNCILS             DEC76
 SN  ORGANIZATIONS OF REPRESENTATIVES OF
     FACULTY, AND SOMETIMES
     ADMINISTRATORS AND STUDENTS, THAT
     CONSIDER ADMINISTRATIVE, ACADEMIC,
     OR OPERATIONAL POLICIES OF THE
     INSTITUTION
```

(7) "PERHAPS..."

```
EMANCIPATED STUDENTS                   FEB75
 SN  STUDENTS WHO ARE LEGALLY (OR
     PERHAPS FINANCIALLY) INDEPENDENT OF
     THEIR PARENTS OR FORMER GUARDIANS
```

Special features or characteristics can be indicated in a number of ways--

(1) "WITH EMPHASIS..., EMPHASIS IS ON..."

COMMUNICATIVE COMPETENCE AUG76
(LANGUAGES)
SN THE ABILITY TO CONVERSE OR
CORRESPOND WITH A NATIVE SPEAKER OF
THE TARGET LANGUAGE IN A REAL-LIFE
SITUATION, WITH EMPHASIS ON
COMMUNICATION OF IDEAS RATHER THAN
ON CORRECTNESS OF LANGUAGE FORM

ORIENTEERING FEB78
SN THE ACT OR SPORT OF CROSS-COUNTRY
NAVIGATION USING A MAP AND COMPASS
AS GUIDES -- EMPHASIS IS ON
DETERMINING, THEN TAKING, THE
SHORTEST AND QUICKEST WAY TO A
SPECIFIED DESTINATION

(2) "WITH ATTENTION ON..., ATTENTION IS GIVEN TO..."

ANTHROPOLOGICAL LINGUISTICS
Oct. 1977
SN Application of anthropological and linguistic techniques to the study of speech communities, particularly those with no writing system; attention is given to specific interrelationships in the concurrent and systematic development of culture and language.

(3) "ASSOCIATED WITH..."

(See FIELD EXPERIENCE PROGRAMS, page 63.)

4.6 SPECIAL PROBLEMS IN MEANING AND USAGE

4.6.1 Relational Homographs

"Relational homographs", those terms whose meaning changes according to the direction of the relationship between the component concepts (see page 49), should always be scoped. Whether they should be scoped to exclude one meaning or to include both will depend upon their usage.

Generally, if a relational homograph has been used primarily in one sense it should be scoped to exclude the other meaning, and always should be scoped to exclude the other meaning where other descriptors exist to capture it, e.g.,

TEACHER DISCIPLINE JAN73
SN DISCIPLINE OF, NOT BY, TEACHERS

A relational homograph may be scoped to explicitly include both meanings, e.g., COMMUNITY SUPPORT--SN SUPPORT OF OR BY THE COMMUNITY, when the following conditions apply:

- o the term is low- to moderately posted
- o it is used frequently in both senses
- o the concepts can be teased out online through appropriate coordinations, or the concept is in a peripheral area
- o descriptors for both concepts are not warranted

Note that the above example may not meet these criteria.

4.6.2 "Double" Scope

Many concepts have two or more meanings or uses that are so closely related that they must be considered synonymous from the point of view of retrieval. ADJUSTMENT, for example, is both a condition and a process and should be scoped as such. Most of the time such usage can be easily handled in the initial clause of a scope note; the Thesaurus provides many examples--

"BEING OR FEELING..."
"THE STATE OR QUALITY OF..."
"TRAITS OR QUALITIES...
"THE ACT OR SPORT OF..."
"THE CONDITION AND PROCESS OF..."

In some cases, however, it will be helpful to both indexers and searchers to make the dual role of the concept more obvious or explicit. This can be done through a "double" (or multiple) scope note. The proposed scope note for DESIGN illustrates this by including its meaning both as a noun and as a verb:

> THE PROCESS OF CONCEIVING AND SELECTING THE STRUCTURE, ELEMENTS, ARRANGEMENT, MATERIALS, STEPS, OR PROCEDURES OF SOME ACTIVITY OR THING--ALSO, THE PLAN, LAYOUT, OR MENTAL SCHEME THAT RESULTS (NOTE: USE A MORE SPECIFIC TERM WHERE POSSIBLE)

A frequent need for double scoping will be found in the descriptors representing the various intellectual disciplines, which in ERIC are also curriculum areas:

INTERNATIONAL RELATIONS AUG76
SN RELATIONS AMONG POLITICAL UNITS OF
NATIONAL RANK -- ALSO, A FIELD OF
STUDY (OFTEN CONSIDERED AS A BRANCH
OF POLITICAL SCIENCE) DEALING
PRIMARILY WITH FOREIGN POLICIES,
THE ORGANIZATION AND FUNCTION OF
GOVERNMENTAL AGENCIES CONCERNED
WITH FOREIGN POLICY, AND THE
FACTORS (AS GEOGRAPHY AND
ECONOMICS) UNDERLYING FOREIGN
POLICY

Meaning of a concept may also vary between or among disciplines. Where retrieval is not affected, i.e., where they are so closely related that searchers would usually want them both and the disciplinary or other concepts provide precision in splitting them out online, these may be double-scoped.

ERROR ANALYSIS (LANGUAGE) MAR77
SN IN LANGUAGE TEACHING AND TESTING, A
TECHNIQUE OF MEASURING PROGRESS AND
OF DEVISING TEACHING METHODS BY
RECORDING AND CLASSIFYING THE
MISTAKES MADE BY STUDENTS; IN
LINGUISTICS, THE OBSERVATION OF
ERRORS IN THE SPEECH PROCESS AS A
MEANS OF UNDERSTANDING THE
PHONOLOGICAL AND SEMANTIC
COMPONENTS OF LANGUAGE,
INTERACTIONAL PROCESSES, AND
SPEAKERS' DISCOURSE STRATEGIES

(do not use a semi-colon)

Term Change Notice No. 50 provides an excellent model scope note for a term used in both a broad and narrower sense:

EDUCATIONAL TECHNOLOGY
SN SYSTEMATIC APPROACH TO THE IDENTIFICATION, DEVELOPMENT, ORGANIZATION, AND UTILIZATION OF TEACHING/LEARNING RESOURCES AND THE MANAGEMENT OF THESE PROCESSES--USED OCCASIONALLY IN A MORE LIMITED SENSE TO DESCRIBE AN EMPHASIS ON EQUIPMENT ORIENTED TECHNIQUES OR AUDIOVISUAL AIDS IN EDUCATIONAL SETTINGS

4.6.3 Concepts "Forced"

Concepts that have been "forced" in indexing under a descriptor representing a distinct but closely related concept must be established as new descriptors when (a) the descriptor is moderately to well posted and there is high search interest, or (b) the descriptor is highly posted and there is moderate search interest, or (c) the descriptor is low to moderately posted, there is moderate search interest, and difficulties exist for precision in online retrieval. (See Section 3.4.2)

Where the "forced" concept has been represented in the Thesaurus by a USE reference, e.g., BEHAVIOR MODIFICATION USE BEHAVIOR CHANGE, creation of the linking note will not be difficult:

BEHAVIOR MODIFICATION
SN xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxx (Note: PRIOR TO THE INSTRUCTION "BEHAVIOR MODIFICATION, USE BEHAVIOR CHANGE" WAS CARRIED IN THE THESAURUS)

However, where no Use reference is present, or where the word form of the Use reference varies from that selected as the preferred form for the new descriptor, creation of the access link to the prior indexing may require new forms or types of historical notes. One possibility is illustrated by the new scope note for MULTICULTURAL EDUCATION, where the previous Use reference was MULTICULTURAL TRAINING USE CROSS CULTURAL TRAINING:

MULTICULTURAL EDUCATION
  SN xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
     xxxxxxx (NOTE: DO NOT CONFUSE WITH CROSS CULTURAL
     TRAINING, WHICH PRIOR TO AUG78 WAS FREQUENTLY USED
     FOR MULTICULTURAL EDUCATION)

4.6.4 Mandatory Leveling Terms

Scope notes must account for the usage of descriptors having special roles or functions in ERIC indexing. These include the descriptors used to indicate characteristics other than subject concepts (the "form" terms, research methodology terms, etc.) and those whose usage is at variance with stated principles of indexing.

The mandatory educational leveling terms and the age leveling terms that are currently being developed are intended to serve a "classing" function--to bring together all materials falling within a certain range as an aid to online searching. The use of these terms is at variance with the principle of indexing at the level of specificity of the document or article.

One effect of such usage may be preponderant assignment as a minor. This might be handled as follows--

ELEMENTARY EDUCATION
  SN EDUCATION PROVIDED IN KINDERGARTEN OR GRADE 1
     THROUGH GRADES 6, 7, OR 8 (NOTE: SINCE 1975, A
     MANDATORY "LEVELER" REPRESENTING THE STATED RANGE
     AND POINTS WITHIN IT, AND USUALLY USED AS A MINOR
     CONCEPT IN INDEXING--PREFER A MORE SPECIFIC TERM
     WHERE APPROPRIATE)

4.6.5 Ambiguous Usage

Special problems of ambiguity are presented by descriptors representing concepts of potentially broad application. For instance, what is the meaning of a term such as EDUCATIONAL PROGRAMS or INSTRUCTIONAL PROGRAMS in the context of an educational database? How are they used when they could be applied to a substantial percentage of the file? How should they be used when, hierarchically, they are not broader than but are parallel to the nearly 150 other "program" terms? What reliability can be ascribed to the postings? If they are used inconsistently, haphazardly, etc., what value do the postings have for retrieval? What useful purpose could they serve in future, if properly scoped or restricted?

Terms with highly ambiguous usage can be identified by comments on the Descriptor Review Forms and by evidence of high scattering or inconsistency in the postings. Statistics on usage frequency may be at great variance from the known or suspected applicability of the concept.

Such descriptors must be analyzed within the context of all terms with which they are conceptually associated. Even if existing indexing must be judged as random, a helpful future role for the term might be identified through a process of exclusion--subtracting from the total concept family that precise meaning or application to be designated as the scope of each related descriptor, the remainder being assigned as the province of the ambiguous term.

```
EDUCATIONAL RESPONSIBILITY          JUL66
 BT  RESPONSIBILITY
 RT  ADMINISTRATOR RESPONSIBILITY
     CHILD RESPONSIBILITY
     COLLEGE ROLE
     EDUCATION
     INSTITUTIONAL ROLE
     NONINSTRUCTIONAL RESPONSIBILITY
     PARENT RESPONSIBILITY
     SCHOOL RESPONSIBILITY
     SOCIAL RESPONSIBILITY
     TEACHER RESPONSIBILITY
```

```
RESPONSIBILITY                      JUL66
 NT  ACCOUNTABILITY
     ADMINISTRATOR RESPONSIBILITY
     BUSINESS RESPONSIBILITY
     CHILD RESPONSIBILITY
     CHURCH RESPONSIBILITY
     COMMUNITY RESPONSIBILITY
     EDUCATIONAL RESPONSIBILITY
     EMPLOYER RESPONSIBILITY
     LEADERSHIP RESPONSIBILITY
     LEGAL RESPONSIBILITY
     PARENT RESPONSIBILITY
     SCHOOL RESPONSIBILITY
     SOCIAL RESPONSIBILITY
     STUDENT RESPONSIBILITY
     TEACHER RESPONSIBILITY
 RT  ADMINISTRATOR GUIDES
     CONFIDENTIALITY
     EDUCATIONAL ACCOUNTABILITY
     INSTITUTIONAL ROLE
     LEADERS GUIDES
```

Educational Responsibility

Bilingual Education Commitment and Involvement. Reports.
ED 033 791

Education for Tomorrow.
ED 035 347

Evaluation of Materials for Reading: Criteria for Evaluating.
ED 033 821

Graduate Education and Black Americans.
ED 032 840

Proceedings of the First Annual Western Regional Conference, Region VI: National University Extension Association (May 1-2, 1969).
ED 035 803

The "Relevance" of Accountability.
ED 036 479

Solving the Problem of Student Unrest in the University.
ED 031 732

```
EDUCATIONAL ACCOUNTABILITY          NOV70
 SN  RESPONSIBILITY FOR BRINGING ABOUT
     SPECIFIED OUTCOMES IN STUDENTS
```

A second possibility for defining a useful scope lies in restructuring the hierarchy so that more specific applications of the basic concept are subsumed as NT's under the ambiguous term, which can then be defined as the sum of those NT's. For instance, the other directly education-related terms in the RESPONSIBILITY hierarchy--SCHOOL RESPONSIBILITY, STUDENT RESPONSIBILITY, and TEACHER RESPONSIBILITY--could be made NT's of EDUCATIONAL RESPONSIBILITY. Then EDUCATIONAL RESPONSIBILITY could be scoped as "the responsibility of the educational system to society, and of its members and participants to each other."

In some cases inconsistent or haphazard use of a broadly applicable concept may occur because (a) the word form of the descriptor is ambiguous (there being no commonly accepted terminology for the concept), and (b) inadequate access to the descriptor has been provided through UF's and RT's. EDUCATIONAL STRATEGIES provides a good example of a term showing marginally acceptable conceptual consistency in its postings but extremely poor reliability when usage data are compared to the usage one would <u>expect</u>, given the scope indicated.

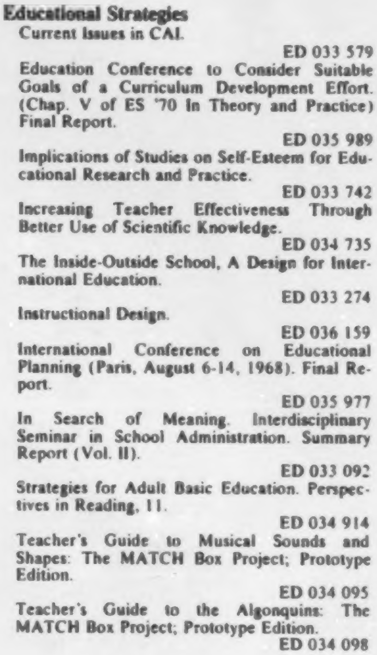
```
EDUCATIONAL STRATEGIES                  JUL66
 SN  OVERALL PLANS FOR IMPLEMENTING
     INSTRUCTIONAL GOALS, METHODS OR
     TECHNIQUES
 NT  DEPARTMENTAL TEACHING PLANS
 BT  EDUCATIONAL METHODS
 RT  CHANGE STRATEGIES
     EDUCATION
     EDUCATIONAL PLANNING
     INSTRUCTIONAL DESIGN
     MOTIVATION TECHNIQUES
     TEACHING PROCEDURES
```

```
SS 1 /C?
USER:
EDUCATIONAL STRATEGIES

PROG:
SS 1 PSTG (1807)

SS 2 /C?
USER:
*EDUCATIONAL STRATEGIES

PROG:
SS 2 PSTG (832)
```



Educational Strategies

Current Issues in CAI.
ED 033 579

Education Conference to Consider Suitable Goals of a Curriculum Development Effort. (Chap. V of ES '70 In Theory and Practice) Final Report.
ED 035 989

Implications of Studies on Self-Esteem for Educational Research and Practice.
ED 033 742

Increasing Teacher Effectiveness Through Better Use of Scientific Knowledge.
ED 034 735

The Inside-Outside School, A Design for International Education.
ED 033 274

Instructional Design.
ED 036 159

International Conference on Educational Planning (Paris, August 6-14, 1968). Final Report.
ED 035 977

In Search of Meaning. Interdisciplinary Seminar in School Administration. Summary Report (Vol. II).
ED 033 092

Strategies for Adult Basic Education. Perspectives in Reading, 11.
ED 034 914

Teacher's Guide to Musical Sounds and Shapes: The MATCH Box Project; Prototype Edition.
ED 034 095

Teacher's Guide to the Algonquins: The MATCH Box Project; Prototype Edition.
ED 034 098

This situation is probably due to the fact that indexers entering the Thesaurus under the descriptors shown among the RT's or under the BT find nothing in the wording of EDUCATIONAL STRATEGIES, as reciprocally displayed, to commend it for use. More importantly, no access whatsoever is provided via the *key* or *focus* word "implementation". In fact, this important concept/word appears only once in the entire ERIC vocabulary structure:

```
                  IMPERATIVE MOOD  Use VERBS
                  IMPERIALISM
  →       PROGRAM IMPLEMENTATION  Use PROGRAM DEVELOPMENT
                  IMPRESSIONISM
                  IMPRESSIONISTIC CRITICISM
```

User need and interest in the concept "implementation" is shown in this comment from SMERC:

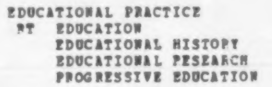
<u>SUGGESTED ADDITIONS TO THE ERIC THESAURUS:</u>

Implementation OR Program Implementation - Program Planning and Program Development don't work; they come before implementation.

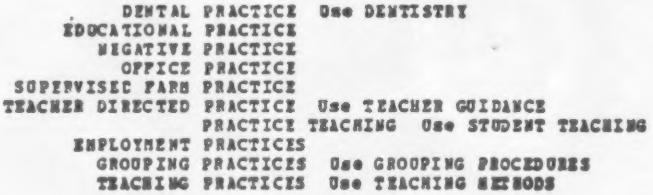
EDUCATIONAL STRATEGIES, then, represents a case in which a descriptor has been poorly utilized, not because of ambiguous meaning, but because of lack of appropriate access. A searcher relying on this descriptor in retrieval is sorely misled; it will recall but an erratic assortment of citations from the total available (but inaccessible) information.

EDUCATIONAL STRATEGIES is a salvageable descriptor, but provision of access through UF's and additional RT's is not the whole answer. The unreliability of previous use in indexing must still be accounted for, and it is doubtful that the Lexicographer would approve an additional note tagged on the scope note, e.g., PRIOR TO THIS TERM WAS USED BADLY. It may be best to more explicitly turn a new leaf and transfer the postings to a new main term IMPLEMENTATION STRATEGIES, thereby hinting indirectly at some previous problem but also bringing confidence to its use from the time of the add date forward.

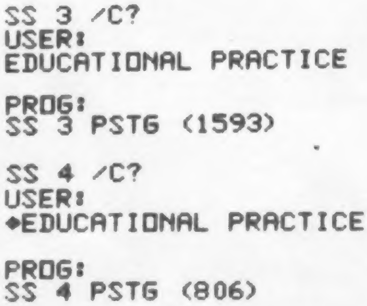
"Starting over" may be the best answer for situations of ambiguous meaning or usage where a needed and useful concept can be isolated. This may not always be the case--in some instances the ambiguity may be so profound that the postings are totally without value, and little in the way of potential future usefulness can be discerned. Drastic surgery may be necessary; initiate a TCN for a purge. Perhaps someone else can suggest a better remedy.



```
EDUCATIONAL PRACTICE                JUL66
 RT  EDUCATION
     EDUCATIONAL HISTORY
     EDUCATIONAL RESEARCH
     PROGRESSIVE EDUCATION
```



```
       DENTAL PRACTICE  Use DENTISTRY
  EDUCATIONAL PRACTICE
     NEGATIVE PRACTICE
       OFFICE PRACTICE
SUPERVISED FARM PRACTICE
TEACHER DIRECTED PRACTICE  Use TEACHER GUIDANCE
                 PRACTICE TEACHING  Use STUDENT TEACHING
    EMPLOYMENT PRACTICES
      GROUPING PRACTICES  Use GROUPING PROCEDURES
      TEACHING PRACTICES  Use TEACHING METHODS
```

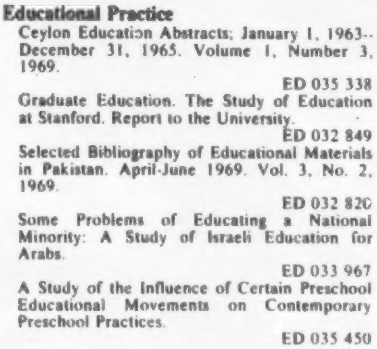


```
SS 3 /C?
USER:
EDUCATIONAL PRACTICE

PROG:
SS 3 PSTG (1593)

SS 4 /C?
USER:
*EDUCATIONAL PRACTICE

PROG:
SS 4 PSTG (806)
```



Educational Practice

Ceylon Education Abstracts; January 1, 1963--December 31, 1965. Volume 1, Number 3, 1969.
ED 035 338

Graduate Education. The Study of Education at Stanford. Report to the University.
ED 032 849

Selected Bibliography of Educational Materials in Pakistan. April-June 1969. Vol. 3, No. 2, 1969.
ED 032 820

Some Problems of Educating a National Minority: A Study of Israeli Education for Arabs.
ED 033 967

A Study of the Influence of Certain Preschool Educational Movements on Contemporary Preschool Practices.
ED 035 450

New Cliches: Catchwords in Education, *Clearing House* v48 n8, pp478-82, Apr 74 EJ 105 152

Photography and the Visible Arts, *Art Education* v27 n7, pp20-3, Oct 74 EJ 105 254

Open Education: Observations And Suggestions, *Thrust for Education Leadership* v4 n1, pp23-7, Oct 74 EJ 105 277

Graduate School of Education Faces the Real World, *UCLA Educator* v16 n2, pp17-20, Spr 74 EJ 105 282

Comparative Education: A Question of Identity, *Comparative Education Review* v18 n3, pp348-53, Oct 74 EJ 105 287

The Influence of Classroom Research Techniques on Student Teachers' Practices and Attitudes, *Illinois School Research* v11 n1, pp31-7, F 74 EJ 105 303

Man's enormous capacity to catch up, *Times Educational Supplement (London)* n3094, pp411, Sep 74 EJ 105 308

Theory and Practice in Religious Education: The Discrepancy, *Notre Dame Journal of Education* v5 n3, pp197-205, F 74 EJ 106 547

Music Education's Split Personality, *Music Educators Journal* v61 n3, pp27-33, Nov 74 EJ 106 871

The Symbolic Arts - Humanism Through the Curriculum of the Symbol, *Music Educators Journal* v61 n3, pp38-9,89-90, Nov 74 EJ 106 873

Western Perceptions of Soviet Education, *Educational Forum* v39 n1, pp27-32, Nov 74 EJ 106 896

Conceived in Liberty, *Educational Forum* v39 n1, pp61-9, Nov 74 EJ 106 900

Diversity in American Education - Pillar or Thorn?, *Educational Studies* v5 n1/2, pp3-10, Spr/Sum 74 EJ 106 913

The Study of Education: Prisoner of Metaphor and Synecdoche, *Educational Studies* v5 n3, pp103-10, F 74 EJ 106 914

An Appraisal of the Tyler Rationale, *School Review* v83 n1, pp151-62, Nov 74 EJ 106 940

Sexism in Education: Pennsylvania Response to the Challenge, *Tennessee Education* v4 n3, pp27-33, F 74 EJ 107 831

Why Open Education Died, *Journal of Research and Development in Education* v8 n1, pp60-7, F 74 EJ 108 504

Emerging Public Policy Mandates for the Education of All Handicapped Children, *High School Journal* v59 n7, pp313-20, Apr 76 EJ 145 803

The Educational Rights of Children, *Science and Children* v14 n1, pp11-13, Sep 76 EJ 147 095

Teacher Time and Teaching Time, *Thrust for Education Leadership* v5 n4, pp12-3, Mar 76 EJ 147 570

Teacher Attitudes and Practices in Open and Traditional Spaces: A Comparison, *CEFP Journal* v14 n5, pp7-9, Sep-Oct 76 EJ 148 034

Educating Both Halves of the Brain, *Childhood Education* v53 n1, pp17-20, Oct 76 EJ 148 652

More Power to the Teachers, *Times Educational Supplement (London)* n3193, pp12-3, Aug 13 76 EJ 149 246

Education of the Handicapped Today, *American Education* v12 n5, pp6-8, Jun 76 EJ 149 247

Community Based Educational Objectives, *Education Canada* v16 n2, pp24-7, Sum 76 EJ 149 331

Making Tomorrow Work in Education, *Educational Horizons* v54 n3, pp111-18, Spr 76 EJ 149 344

The Socialization of Girls in the Secondary Schools of England and the Two Germanies, *International Review of Education* v22 n1, pp5-23, 76 EJ 149 392

Achieving Home-School Continuity in the Socialization of an Academic Motive, *Journal of Experimental Education* v44 n3, pp38-44, Spr 76 EJ 149 413

Is Teaching What the Philosopher Understands by It?, *British Journal of Educational Studies* v24 n2, pp155-70, Jun 76 EJ 149 548

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The Case of the Missing Chairs, *Education 3-13* v4 n2, pp113-16, Oct 76 EJ 154 458

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Social Promotion: Problem or Solution?, *NASSP Bulletin* v60 n402, pp25-9, Oct 76 EJ 156 265

External Degree Programs: In Search of New Definitions for Quality, *North Central Association Quarterly* v51 n2, pp275-79, F 76 EJ 156 287

Woman's Role and Educational Program, *Thrust for Education Leadership* v6 n1, pp4-5, Oct 76 EJ 156 319

The Role of Sociology in Teacher Education, *Australian Journal of Education* v20 n3, pp292-305, Oct 76 EJ 156 616

Directions in African Childhood Education, *Childhood Education* v53 n5, pp250-256, Mar 77 EJ 157 338

Variations on a Theme: Schooling, *Teacher Educator* v12 n3, pp36-40, W 76-77 EJ 157 773

Individualizing Curriculum and Instruction--A Point of View, *High School Journal* v60 n3, pp105-10, Dec 76 EJ 157 902

```
SS 1 /C?                 SS 7 /C?            SS 13 /C?
USER:                    USER:               USER:
EDUCATIONAL PRACTICE     1 AND EC/CC         1 AND RC/CC

PROG:                    PROG:               PROG:
SS 1 PSTG (1593)         SS 7 PSTG (15)      SS 13 PSTG (22)

SS 2 /C?                 SS 8 /C?            SS 14 /C?
USER:                    USER:               USER:
1 AND AA/CC              1 AND FL/CC         1 AND SE/CC

PROG:                    PROG:               PROG:
SS 2 PSTG (561)          SS 8 PSTG (33)      SS 14 PSTG (14)

SS 3 /C?                 SS 9 /C?            SS 15 /C?
USER:                    USER:               USER:
1 AND CE/CC              1 AND HE/CC         1 AND SO/CC

PROG:                    PROG:               PROG:
SS 3 PSTG (36)           SS 9 PSTG (12)      SS 15 PSTG (363)

SS 4 /C?                 SS 10 /C?           SS 16 /C?
USER:                    USER:               USER:
1 AND CG/CC              1 AND IR/CC         1 AND SP/CC

PROG:                    PROG:               PROG:
SS 4 PSTG (13)           SS 10 PSTG (11)     SS 16 PSTG (87)

SS 5 /C?                 SS 11 /C?           SS 17 /C?
USER:                    USER:               USER:
1 AND CS/CC              1 AND JC/CC         1 AND TM/CC

PROG:                    PROG:               PROG:
SS 5 PSTG (25)           SS 11 PSTG (14)     SS 17 PSTG (19)

SS 6 /C?                 SS 12 /C?           SS 18 /C?
USER:                    USER:               USER:
1 AND EA/CC              1 AND PS/CC         1 AND UD/CC

PROG:                    PROG:               PROG:
SS 6 PSTG (104)          SS 12 PSTG (41)     SS 18 PSTG (105)
```

4.7 PROCEDURES FOR SCOPE NOTE WRITING

1. Be sure you have examined all existing scope notes for related terms, component concepts, and any other terms using the same component words as the descriptor.
2. For authorities, see Section 1.4.3.
3. For impact statements, see page 15.
4. As an aid to lexicographic analysis, submit copies of all definitions utilized in the wording of the scope note that may not be readily available to the lexicographers, including pages from journal articles, documents, and other special sources. Mark the appropriate passages. (If you do not have a reader/printer available and ERIC documents are cited, submit the ED number and the page or frame number.)
5. Be sure to check on the verso of the DJF all the authorities consulted, whether used in the construction of the scope note or not.
6. Be sure to cite any subject experts consulted. If further information or verification is requested by the lexicographers, submit a photograph of your clearinghouse Director, Advisory Board member, etc., as authoritative evidence.

SECTION 5: USE AND USE FOR

SECTION OUTLINE

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SECTION 5: USE FOR and USE

5.1 DEFINITION

UF's are nonpostable descriptors. The reason for the designation "main term" for authorized (postable) descriptors becomes apparent when they are seen in the context of their UF's. UF's are either synonyms of main terms or are narrower concepts that do not warrant being established as main terms.

UF's serve as the *access vocabulary* of a thesaural system. They are points of entry that users (both indexers and searchers) are likely to try. The access function is crucial to an understanding of UF's and to evaluations and decisions made about them. It also draws attention to the role of the first word in the construction (word form) of UF's. Until publication of the *VIP Rotated Display* we had no access to subsequent words in UF's. The likelihood that this tool will replace the present rotated display will alter, to some extent at least, the critical importance of first words in UF's in our vocabulary.

5.2 APPROVED FUNCTIONS

(1) To refer from synonyms and variant word forms to the preferred form established as the main term. "Synonym" must be understood to mean *synonymous for the purposes of retrieval in ERIC*. Distinctions made in the literature and in authorities are not important if they do not hold up from the point of view of retrieval.

```
SIGHT            HOKKU          CHRONICALLY ILL
 USE VISION       USE HAIKU      USE SPECIAL HEALTH PROBLEMS
```

(2) To refer from a specific term to a more general term (posting up).

```
LEGAL SECRETARIES
 USE SECRETARIES
```

(3) To refer from a commonly accepted acronym or abbreviation to its full form.

```
ITA
 USE INITIAL TEACHING ALPHABET
```

(4) To refer from a common name to its scientific or technical equivalent, or from a scientific or technical term to its common equivalent.

```
CROSS EYES          CYESIS
 USE STRABISMUS      USE PREGNANCY
```

(5) To refer from older to current terminology.

```
NEGROES (1966 1977)
 USE BLACKS
```

(6) To prescribe simultaneous use of more than one term to express a concept.

FATHER ROLE
 USE FATHERS
 and PARENT ROLE

(7) To refer from a deleted main term to the main term(s) to which its postings have been transferred.

COLLECTIVE NEGOTIATION (1967
1977)
 USE COLLECTIVE BARGAINING

(8) To bring together points in a conceptual continuum.

PROXIMITY
 USE DISTANCE

5.3 RULES FOR USE REFERENCES

(1) UF's are limited to 50 characters, including blanks.

(2) Word forms should follow the rules for word form of main terms.

(3) Parentheses ( ) are the only punctuation allowed.

(4) UF's may refer laterally or upward but never downward, i.e., from a broader concept to a narrower, more specific concept.

(5) UF's must bear the same relationship to the hierarchy (BT's/NT's) of a main term as does the main term itself--*except* where a UF, conceptually bearing an RT relationship to the main term, has been designated as synonymous for the purposes of retrieval.

(6) UF's must bear the same relationship to the RT's of the main term as does the main term itself.

(7) UF's are restricted to *useful* entry points--those for which there is good probability of use.

(8) *All* entry points likely as user approaches to a concept represented in the Thesaurus must be included as UF's.

5.4 EVALUATION AND DECISION CRITERIA FOR USE REFERENCES

5.4.1. Relationship Between UF and Main Term

Is the relationship between the UF and the main term either synonymous or hierarchical?

Testing for Synonymity

Synonyms can be tested by inserting the words "is always" or "are always" between the two terms. The relationship should be true in both directions.

[UF] is always [main term]
[main term] is always [UF]

Examples:

SELF DISCIPLINE
USE SELF CONTROL

SELF DISCIPLINE is always SELF CONTROL
SELF CONTROL is always SELF DISCIPLINE

MINORITY CULTURE
USE MINORITY GROUPS

MINORITY CULTURE is always MINORITY GROUPS
MINORITY GROUPS are always MINORITY CULTURE

VILLAGE WORKERS
USE CHANGE AGENTS

VILLAGE WORKERS are always CHANGE AGENTS
CHANGE AGENTS are always VILLAGE WORKERS

o If the test holds true in both directions the terms are *synonymous*.

o If the terms do not meet the test of "always" in both directions, but do meet the test of "usually" or "frequently", they are *near-synonyms*. Then the criterion is whether they are synonymous for the purposes of retrieval from the ERIC database. For example, SELF DISCIPLINE and SELF CONTROL are not identical, but are very nearly so:

    o If the UF were also established as a main term, would the postings on the two terms be distinguishable?

    o Would searchers frequently want one concept but not the other?

If the answers to these questions are negative, then the terms are synonymous and the UF should be retained.

o If the two terms meet the test of "always" in the direction "UF is always main term", then the relationship is hierarchical and legitimate.

o If the two terms meet the test of "sometimes" in one or both directions, e.g., CHANGE AGENTS are *sometimes* VILLAGE WORKERS, then there may be a hidden hierarchical relationship that could be expressed in a new precoordination: VILLAGE [or rural] CHANGE AGENTS Use CHANGE AGENTS. Usually, however, it would be better to delete the reference and let indexers and searchers select an appropriate coordination, such as RURAL DEVELOPMENT, according to the document/query. (See Section 5.5.3.)

Testing for Hierarchy

Hierarchically related UF's can be similarly tested by inserting the words "kind(s) of" or "specific application of" between the two terms. The relationship will hold true in one direction:

[UF] are kinds of [main term]
[main term] are kinds of [UF]

Examples:

```
GRANDFATHERS
 USE GRANDPARENTS
```

GRANDFATHERS are kinds of GRANDPARENTS
GRANDPARENTS are kinds of GRANDFATHERS

```
FAILURE
 USE ACADEMIC FAILURE
```

FAILURE is a kind of ACADEMIC FAILURE
ACADEMIC FAILURE is a kind of FAILURE

```
GRAIN MARKETING
 USE GRAINS (FOOD)
```

GRAIN MARKETING is a kind of GRAINS (FOOD)
GRAINS (FOOD) is a kind of GRAIN MARKETING

- o If the test holds true *from UF* to main term the relationship is upward and legitimate.
- o If the test holds true *from main term* to UF the relationship is downward and violates the rules for UF's. Such errors can be remedied by qualifying the UF.
- o If the test does not hold true in either direction the relationship is an RT relationship and violates the rules. However, it should be remembered that such relationships may exist whenever the concepts are judged to be synonymous for searching. See Section 5.5.5 for a special discussion of RT relationships.

5.4.2 Relationship Between UF and Display

Is the synonymous or hierarchical relationship identified between the UF and the main term supported by equivalent relationships to its BT's, NT's, and RT's?

Examples:

```
SUPERVISORS                         JUL66
 UF  FOREMAN
 NT  COLLEGE SUPERVISORS
     ELEMENTARY SCHOOL SUPERVISORS
     HIGH SCHOOL SUPERVISORS
     STATE SUPERVISORS
 BT  ADMINISTRATIVE PERSONNEL
```

Is the UF appropriate to the BT's and NT's? (Note: this may be a poor example)

```
LABOR FORCE NONPARTICIPANTS         JUL66
 SN  PERSONS NEITHER WORKING NOR LOOKING
     FOR WORK
 UF  VOLUNTARILY IDLE
 BT  GROUPS
 RT  HOUSEWIVES
     LABOR FORCE
     LABOR SUPPLY
     MANPOWER UTILIZATION
     MENTALLY HANDICAPPED
     PHYSICALLY HANDICAPPED
     RETIREMENT
     STUDENTS
     UNEMPLOYED
     WORK ATTITUDES
```

Is the UF appropriate to the RT's?

5.4.3 Usefulness of Access Point

Is the access point provided by the UF useful? Is there a good possibility that users of the Thesaurus might approach the concept via that terminology? Is the terminology of the UF found in the literature or in common discourse?

```
CREW LEADERS                           JUL66
 UF  CREW BOSS
     FARM FOREMEN
     LEADMEN
     ROW BOSS
     STRAW BOSS
 BT  PERSONNEL
 RT  AGRICULTURAL LABORERS
     MIGRANT WORKERS
     SUPERVISORS
```

(Note relationship to Foreman (sic) above)

5.4.4 Needed Access Points

Are <u>all</u> the needed access points provided? Need for additional UF's can be tested as follows--

(1) Check the *VIP Rotated Display* under the key component words of the main term to see the surrounding "terminology terrain". Determine whether UF's from and to those words point to other words that meet the test for synonymity or near-synonymity. Any identifiable patterns of references not already provided for in the descriptor's UF's should be added.

```
OCCUPATIONAL MOBILITY
 UF  JOB MOBILITY
     LABOR MOBILITY
     OCCUPATIONAL SUCCESSION
 NT  CAREER LADDERS
 BT  MOBILITY
```

```
           OCCUPATIONAL ASPIRATION
           OCCUPATIONAL ASPIRATION LEVEL  Use OCCUPATIONAL ASPIRATION
           OCCUPATIONAL AWARENESS  Use CAREER AWARENESS
           OCCUPATIONAL CHOICE
           OCCUPATIONAL CLUSTERS
           OCCUPATIONAL COUNSELING  Use VOCATIONAL COUNSELING
           OCCUPATIONAL COURSES  Use VOCATIONAL EDUCATION
           OCCUPATIONAL DISEASES
           OCCUPATIONAL EXPLORATION  Use CAREER EXPLORATION
           OCCUPATIONAL FAMILIES  Use OCCUPATIONAL CLUSTERS
           OCCUPATIONAL FOLLOWUP  Use VOCATIONAL FOLLOWUP
           OCCUPATIONAL GUIDANCE
           OCCUPATIONAL HOME ECONOMICS
           OCCUPATIONAL INFORMATION
           OCCUPATIONAL MOBILITY
           OCCUPATIONAL PERSISTENCE  Use PERSISTENCE
 PROMOTION (OCCUPATIONAL)
           OCCUPATIONAL SATISFACTION  Use JOB SATISFACTION
           OCCUPATIONAL SUCCESSION  Use OCCUPATIONAL MOBILITY
           OCCUPATIONAL SURVEYS
           OCCUPATIONAL TESTS
           OCCUPATIONAL THERAPISTS
           OCCUPATIONAL THERAPY
           OCCUPATIONAL THERAPY ASSISTANTS
           OCCUPATIONAL TRAINING  Use VOCATIONAL EDUCATION
```

(2) Make sure that access is provided from important key words in the main term (or perhaps in the scope note), e.g.,

SUCCESS AVOIDANCE
 USE FEAR OF SUCCESS

(3) Check titles of documents and articles posted to the main term for clues about alternate word forms and terminology.

```
AFFECTION                          JUL66
 BT  PSYCHOLOGICAL NEEDS
 RT  AFFILIATION NEED
     EMOTIONAL EXPERIENCE
     INDIVIDUAL NEEDS
```

Affection
How Much Do Mothers Love Their Children?
ED 081 485
Preliminary Investigation into Moral Behavior with an Emphasis Upon Perception of Physical Contact by Five Year Olds. Occasional Paper No. 1.
ED 094 873
The Problem of Love: A Survey of Theoretical Literature.
ED 084 584

(4) Make sure that access is provided for embedded concepts in any compound words in the main term, e.g., SCHOOL COMMUNICATION.

```
INTERSCHOOL COMMUNICATION          JUL66
 BT  INTERCOMMUNICATION
     ORGANIZATIONAL COMMUNICATION
```

5.5 SPECIAL PROBLEMS

5.5.1 Filing Order/Filing Distance

What is needed for effective access to the vocabulary varies in different alphabetical sections of the Thesaurus. Provision of UF's that have the same first word as the main term is unnecessary if they will file in close proximity to the main term, and if the possibility of additional intervening references and displays appears small. Similarly, several UF's referring to the same descriptor are redundant if they will file together, whether or not they will appear adjacent to the main term. However, in core areas of the Thesaurus, such as the "school" terms, the "student" terms, etc., UF's beginning with the same words or beginning with the same word as the main term may file at a substantial distance from each other. These references may be vital.

```
SCHOOL PERSONNEL                   JUL66
 UF  SCHOOL EMPLOYEES
     SCHOOL OFFICIALS
```

A further consideration in evaluating the usefulness of existing references of this type, and in estimating the need for additional references, is the potential effect of conversion of Thesaurus filing from letter-by-letter to word-by-word. At present *CIJE* is filed word-by-word, while *RIE* and the Thesaurus are filed letter-by-letter. The Steering Committee has recommended that all ERIC tools should convert to word-by-word.

In the example below, the references file immediately beneath the main term. It is unlikely that many new references or descriptor displays will occur between them; this is a peripheral area. However, in the event of conversion to word-by-word filing, AUTOBIOGRAPHIES, the "autoinstructional" terms, and the "automation" terms would separate "automobile" from the main term. For this reason, while AUTOMOBILE SERVICE MECHANICS and AUTOMOTIVE SERVICE SPECIALISTS may be deleted without loss of access, AUTOMOBILE MECHANICS (OCCUPATION) should be retained.

```
AUTO MECHANICS (OCCUPATION)          JUL66
 UF   AUTOMOBILE MECHANICS (OCCUPATION)
      AUTOMOBILE SERVICE MECHANICS
      AUTOMOTIVE SERVICE SPECIALISTS
      DIESEL MECHANICS (OCCUPATION)
      TRUCK MECHANICS
 BT   SKILLED WORKERS
 RT   AUTO BODY REPAIRMEN
      AUTO MECHANICS
      MOTOR VEHICLES
      SKILLED OCCUPATIONS
      TRADE AND INDUSTRIAL EDUCATION

AUTOMOBILE MECHANICS (OCCUPATION)
 USE AUTO MECHANICS (OCCUPATION)

AUTOMOBILE SERVICE MECHANICS
 USE AUTO MECHANICS (OCCUPATION)

AUTOMOTIVE SERVICE SPECIALISTS
 USE AUTO MECHANICS (OCCUPATION)
```

5.5.2 Mixed Signals

Dreadful mistakes can occur when UF's are considered only from the point of view of the main term. In evaluating UF's for either deletion or addition and in judging their correctness for retention, it is imperative that you look at them not only in the descriptor display but also--

- at the place where they file

```
GUIDANCE SPECIALISTS
 USE GUIDANCE PERSONNEL

GUIDANCE WORKERS
 USE COUNSELORS
```

- under each word in the rotated display

```
TEACHER COMPETENCY               TEACHER QUALITY             TEACHER EFFECTIVENESS
 USE TEACHER QUALIFICATIONS       USE TEACHING QUALITY        USE EFFECTIVE TEACHING
```

5.5.3 Precoordinated Upward UF's

Upward references cause no problem if they are single word constructions or multi-word constructions representing a single concept, or if they are directly parallel precoordinated compound concepts.

```
                                               ADHESIVES                        JUL69
INSTITUTION LIBRARIES            FEB69          UF   AGGLUTINANTS
 UF   HOSPITAL LIBRARIES                             BINDERS (ADHESIVES)
      PRISON LIBRARIES                               CEMENTS (ADHESIVES)
      REFORMATORY LIBRARIES                          GLUES
                                                     MUCILAGES
                                                     PASTES
                                                     STICKERS
```

Precoordinated upward UF's that add a new concept, one not directly related to the component concepts of the main term, cause substantial confusion--particularly when the added concept is represented in the Thesaurus. The UF instruction seems to imply that no other coordination is necessary to index or retrieve the concept signified by the UF. ERIC users and trainee indexer/abstractors often interpret these UF's as scope notes.

Potential actions:

1. If only one instance of a potentially much larger class of precoordinations is present,, or if the UF is not of essential importance, it should be deleted.

```
SHADE TREES
 USE TREES
```

(not important)

```
LEARNING DIFFICULTIES                  JUL66
 UF  ARITHMETIC DEFICIENCIES
 BT  ACADEMIC ACHIEVEMENT
     DIAGNOSTIC TEACHING
     EDUCATIONAL DIAGNOSIS
     LEARNING
     LEARNING CHARACTERISTICS
     LEARNING DISABILITIES
     NONVERBAL LEARNING
     REMEDIAL INSTRUCTION
     SYMBOLIC LEARNING
```

(could apply to every subject of instruction represented in the Thesaurus)

2. If the access point is needed, check the postings for frequency of occurrence of the narrower concept represented by the UF.

   - If the main term is used *primarily* in the sense of the UF, qualify the main term parenthetically to restrict it to that meaning. Add a scope note with the warning PRIOR TO   THE USE OF THIS TERM WAS NOT RESTRICTED BY A QUALIFIER.

     Alternatively, delete the main term and transfer its postings to a new main term taking the form of the UF. Leave a UF with appropriate date ranges in place of the former main term, and add a note to the scope note with the warning PRIOR TO   THE INSTRUCTION "____________, USE ____________" WAS CARRIED IN THE THESAURUS.

   - If the main term is used *frequently* in the sense of the UF, or if it is applied to several contexts represented by two or more precoordinated UF's, consider establishing the UF's as new main terms. Where only one UF is present, base your decision on--

     (a) "literary warrant"--the extent to which the concept appears in the literature;

(b) potential search interest, and thus the need for a retrieval term; and

(c) evidence in the display supporting establishment of a new NT.

```
PERSISTENCE                       JUL66
 UF  OCCUPATIONAL PERSISTENCE
 NT  TEACHER PERSISTENCE
 BT  BEHAVIOR
 RT  DROPOUTS
     EMPLOYMENT
     EMPLOYMENT PROBLEMS
     MANPOWER UTILIZATION
     TEACHER EMPLOYMENT
     UNEMPLOYMENT
```

```
TEACHER PERSISTENCE                        JUL66
 SN  CONTINUATION OF TEACHING DUTIES
     OVER A PERIOD OF TIME BY PERSONAL
     CHOICE
```

In this case, the evidence of the BT suggests that, as a type of behavior, persistence is a concept applicable in many situations. The evidence of the NT proves that the concept represented by the UF has already been applied in the Thesaurus to a specific occupation; the UF *__intervenes__* *in the hierarchy between the main term and the NT. The evidence of the RT's shows that the concept represented by the main term is related to students (dropouts) as well as occupational groups, and also that the relationship of the concept to the specific use suggested in the UF is strong. [Since the concept "persistence" represents a continuum, the candidate NT would have to be carefully distinguished from* LABOR TURNOVER, OCCUPATIONAL MOBILITY *, and* CAREER CHANGE]

```
OCCUPATIONAL MOBILITY
 UF  JOB MOBILITY
     LABOR MOBILITY
     OCCUPATIONAL SUCCESSION
```

```
CAREER CHANGE
 UF  EMPLOYMENT CHANGE
     JOB CHANGE
     VOCATIONAL CHANGE
     WORK CHANGE
```

Where two or more precoordinated UF's are present, base your decision on the above factors and also--

(d) whether searchers are likely to want to retrieve the concepts separately, or would they usually be interested in both; and

(e) the difficulty of retrieving the precoordinated concepts from among the postings on the main term through online coordinations with other descriptors.

```
GRADES (SCHOLASTIC)                JUL66
 UF  COLLEGE GRADES (SCHOLASTIC)
     HIGH SCHOOL GRADES (SCHOLASTIC)
```

- If the main term is used only *sometimes* in the sense of the UF, and if a new NT is not warranted but the access point provided by the UF is needed, then an "includes" scope note must be __mandatory__. This can be an extensive list of applications or components of the main term or it can just be suggestive of them, through examples.

Such a scope note should be prepared even if the UF's appear to cover the applications or sub-sets of the main term exhaustively.

3. *Warning:* You may be tempted to split the UF and establish a "multiple UF". Multiple UF's are appropriate only in a very limited set of conditions. See Section 5.5.7.

5.5.4. Downward UF's and Term Reversals

Downward UF's, those pointing from a broader to a narrower concept, are serious errors that demand remediation. They are found in cases where the broader concept is not itself a main term yet the *key word* representing the concept is a highly likely user access point. Where the broader concept is a key element in the wording of a descriptor, such an access point is essential.

Potential actions:

1. If another closely-related descriptor is available that begins with the same word, delete the UF and make sure the terms are linked by an RT reference. In the case of FAILURE Use ACADEMIC FAILURE, the descriptor FAILURE FACTORS is available as an access point.

2. If the main term is a homograph, the UF should also be considered a homograph. It should be qualified similarly to make it synonymous with the main term.

ADVANCEMENT
USE PROMOTION (OCCUPATIONAL)

A problem here is that the *Rules for Thesaurus Preparation* specifically precludes the use of inverted entries in cross-referencing. In fact, it goes so far as to say "One of the reasons for restricting the use of parenthetical qualifiers to homographs is to preclude the use of inverted entries." This makes the following type of reference illegal:

BATTERIES (ELECTRIC)
USE ELECTRIC BATTERIES

[It could be argued that this is a homograph because there are also test batteries and gun emplacement batteries.] One way of avoiding violation of the rule is to alter the word form slightly.

CIRCUITS (ELECTRONIC)
USE ELECTRIC CIRCUITS

3. Another way is to construct the UF as a prepositional phrase.

SELECTION OF LIBRARY MATERIALS
USE LIBRARY MATERIAL SELECTION

In some cases this will be preferrable to qualification:

Acceptance (Peer) is not totally clear, while the meaning of "acceptance by peers" or "acceptance of peers" (or both) is very clear.

```
ACCEPTANCE
 USE PEER ACCEPTANCE
```

5.5.5 RT Relationships

RT relationships between main terms and UF's are those that meet neither the tests for synonymity nor hierarchy. These "tests" are merely devices for analysis, however, and should not be considered as authoritative.

RT relationships are always justifiable when the access point is needed and when the concepts are synonymous for the purposes of retrieval. But they can cause uncertainty and sometimes difficulty for indexers and searchers. Each instance should be given careful consideration.

Some RT relationships between UF's and main terms will be precoordinated upward UF's. In the case of GRAIN MARKETING Use GRAINS (FOOD), the UF is really hierarchically related to MARKETING and has an RT relationship to the main term. When both the component concepts are represented in the Thesaurus it is best to delete the UF (without leaving an historical note); indexers and searchers can be relied on to make appropriate coordinations.

It may be that some of these precoordinated upward UF's, especially those in peripheral areas, stem from the rule that scope notes should be used "when the intended usage of a descriptor has not been made explicit by cross references." Perhaps there was a tendency to use the access vocabulary to indicate scope. Certainly in the case of GRAINS (FOOD) the UF's do not aid *access*; they file immediately before the main term. Though it should not be necessary here, in general it is best to let the scope note field handle scope designations!

```
GRAINS (FOOD)                       FEB70
 UF  GRAIN MARKETING
     GRAIN PROCESSING
     GRAIN PRODUCTION
```

RT relationships should be evaluated using the criteria for testing synonymity given on pages 36-37, as if both were main terms. For instance, in the case of CHRONICALLY ILL Use SPECIAL HEALTH PROBLEMS, an RT relationship referring from a population concept to a "condition" concept, if both were descriptors would there be high overlap in postings? Would the postings be distinguishable? Can the concept of the UF be retrieved through natural language or coordination from among the postings on the main term?

In general, one should be extremely cautious about deleting any UF bearing an RT relationship to the main term, particularly where population concepts are involved. It must be remembered that these cross references have guided indexing practice for many years, and, when a UF is deleted there is no way to leave an historical record or instruction unless the UF is established as a main term itself.

In core areas and areas of immediate interest this alternative may be preferrable to either retention or deletion of a UF. Certainly it is preferrable for highly posted descriptors, where establishing a new main term may be warranted simply on the basis of search interest alone. But the proper function and usage of each of the terms would have to be explicitly indicated, e.g.,

BILINGUAL CHILDREN
SN USE FOR APPLICATIONS IN NON-SCHOOL SETTINGS (SOCIAL, ECONOMIC, CULTURAL OR PSYCHOLOGICAL FACTORS, FAMILY LIFE, ETC.)--FOR APPLICATIONS IN EDUCATIONAL SETTINGS USE BILINGUAL STUDENTS

BILINGUAL CHILDREN
USE BILINGUAL STUDENTS

DISADVANTAGED STUDENTS
USE DISADVANTAGED YOUTH

DISADVANTAGED CHILDREN
USE DISADVANTAGED YOUTH

New descriptors should always be established for UF's bearing RT relationships in areas of high search interest. These references have persisted in the Thesaurus because of the *appearance of synonymity.*

BUSING
USE BUS TRANSPORTATION

BEHAVIOR MODIFICATION
USE BEHAVIOR CHANGE

In the case of BEHAVIOR MODIFICATION, the modifiers of the two terms are either synonymous or are very nearly synonymous, the slight distinction being that "modification" imples purposeful intent. Nonetheless, while BEHAVIOR MODIFICATION may be a "kind of" BEHAVIOR CHANGE in this light, it is predominately used in the literature as the name of a specific *technique*. BEHAVIOR CHANGE is not a technique but a process. Here literary warrant and user demand are unanimous and overwhelming.

5.5.6 Colloquialisms

Slang and colloquialisms used as UF's (e.g., STRAW BOSS, MARY JANE (DRUG)) should ordinarily be deleted, particularly when the terminology of the main term is commonly known and widely used. In some instances, however, concepts exist in the Thesaurus for which there are no commonly accepted terms. In these cases the word form of the main term may not come readily to mind. In addition, the component words may not provide key access points that could be approached through the rotated display. In these cases any reasonable colloquial expressions should be seized upon as access points.

BREADWINNERS
USE HEADS OF HOUSEHOLDS

5.5.7 Multiple UF's

Multiple USE references allow the specification of a concept through up to five coordinations. At present, there are only thirteen such references established in the Thesaurus (all utilizing only two coordinations), due to the limited number of situations in which they are appropriate. In order to qualify for this treatment, the following conditions should be present:

(1) The possibilities for representing each facet in the coordination should be limited (ideally) to one and only one logical choice. If a facet is present for which there are several possibilities in choice of terms, or if the facet represents a "class" concept with several members (NT's), the concept is not a good candidate for a multiple UF.

(2) At least one of the facets must have good specificity from the perspective of the concept as a whole, and must be low- to moderately-posted.

(3) High precision in online retrieval is the only justification for a multiple UF. There must be little, if any, possibility that the terms selected could combine in such a way to retrieve false drops. An online search ANDing the prospective coordinates must be run and submitted to the lexicographers for verification. At least 80% relevancy should be attained.

(4) The concept should not be in an area of high search interest. Direct and specific descriptors are most necessary and desirable in areas of high search interest, to ensure ease and precision for manual retrieval.

5.5.8 Nonsense

Nonsensical UF's should disappear without a trace. Don't *assume*, however--check the postings first. Maybe the terminology "family dinner service specialists" is frequently used.

FAMILY DINNER SERVICE SPECIALISTS
USE COOKS

5.6 SUMMARY OF PROCEDURES FOR USE REFERENCES

1. Test the relationship between the UF and the main term.
2. Check the *VIP Rotated Display* to observe the "terminological terrain" (mixed signals and access points needed).
3. Check titles of documents and articles posted to the main term for evidence of terminological variance, need to establish conceptually narrower UF's as new NT's, and for critical omissions in UF's.
4. Before establishing a new UF, always check the place where it will file in the Thesaurus, the place it will file if filing order is converted to word-by-word, and check each word of the candidate UF in the rotated display.

ADDENDA

Corrections, additions, and revisions to the manual will be issued as pages in the Addenda, by Section numbers. All ERIC personnel are invited to submit material. Your ideas and suggestions are especially needed for Section 2.1.

ADDENDA: SECTION 2

2.1.1. The presence of many low to moderately posted terms beginning with the same word, such as the "community" terms or the "social" terms, does not pose a problem of scattering for the manual searcher. These are easily scanned together. Only one "lookup" is involved.

GLOSSARY

Terms Used in a Special Sense in the Manual

POSTINGS[1]

The body of literature tagged by a descriptor. For analysis of of indexing usage, refers to the titles of documents and articles tagged by a descriptor, as an easily accessible through indirect reflection of that literature.

POSTINGS[2]

The number of documents or articles tagged by a descriptor. Usage frequency.

LOW POSTED

Usage as a major resulting in up to ½ column of entries (about 15 entries) in a six-month cumulative index in either file. Extremely low posted terms may not appear in every cumulative index.

MODERATELY POSTED

Usage as a major resulting in from ½ column to 3 columns of entries (about 100 entries) in a six-month cumulative index in either file. This is about the maximum that can be manually searched with ease.

HIGHLY POSTED

Usage as a major resulting in more than one page of entries (over 100 entries) in a six-month cumulative index in either file. Extremely high-posted terms may have more than three pages of entries.

TERMINOLOGY TERRAIN

Word usage in the ERIC vocabulary, both within thesaural conceptual structures and as distinct from them. Includes:

- what words mean in ERIC
- word preferences among synonyms
- grammatical preferences (singular/plural)
- how they refer to each other in Use references
- how they are linked through hierarchical and other conceptual structures

For instance, we prefer "handicapped" to "retarded" or "crippled"; we prefer "influences" to "effects"; the "vocational", "occupational", "job", "work", and "career" terms are used almost indiscriminantly (as they are used in the literature) and thus have no clear conceptual foundation, etc.

March 29, 1979
ERIC Facility
by Jim Houston &
Meg Block

ERIC

RELATED TERM GUIDELINES

RTs are cross-references that are neither hierarchical (BT/NT) nor equivalent (USE/UF) but are essential for informing users of alternative terms for indexing/locating documents on given subjects. An RT relationship exists when there is a strong conceptual bond between two terms, which sometimes, but not always, is reflected by concurrent usage in the literature. Sometimes called the "associative relationship," the RT has been referred to as "vague" and "difficult to define," and it is universally acknowledged that assignments must be somewhat subjective. Current authorities, however, do cite several rules or principles that lexicographers can consider in selecting RTs. The following is from the American National Standard Z39.19-1974, derived primarily from the EJC Thesaurus Rules and Conventions in the back of the TEST Thesaurus. The examples are ERIC's.

> The RT reference is employed as a guide from a given term to other terms that are closely related in ways other than the genus-species (BT-NT) relationship. In general, any two terms bear the cross-reference RT to each other if it is believed that the user, when examining one of them, might want to be reminded of the existence of the other. RT references may be used to identify relationships such as the following:
>
> o Terms that are near-synonyms
>
> BIRTH / REPRODUCTION (BIOLOGY)
> CHILDRENS BOOKS / CHILDRENS LITERATURE
> CURRICULUM GUIDES / TEACHING GUIDES
> EDUCATION / INSTRUCTION
> HOUSING PATTERNS / RESIDENTIAL PATTERNS
>
> o Terms that have viewpoint (or practical) interrelationships, such as a relationship based on usage
>
> ARITHMETIC / FRACTIONS
> ARTISTS / PAINTING
> CHILDREN / PLAY
> COST INDEXES / INFLATION (ECONOMICS)
> CULTURE FREE TESTS / TEST BIAS
> HEALTH / DISEASES
> HEALTH FACILITIES / MEDICAL TREATMENT
> HUNGER / NUTRITION
> WINDOWS / VENTILATION

- Terms representing concepts bearing a whole-part relationship to each other

    BUILDING MATERIALS / ROOFING
    CATALOGS / INDEXES (LOCATERS)
    HUMAN BODY / CARDIOVASCULAR SYSTEM
    INTERNATIONAL RELATIONS / DISARMAMENT

- Terms that represent overlapping concepts

    CIVIL LIBERTIES / JUSTICE
    CREDIBILITY / INTEGRITY
    DRUG ABUSE / DRUG ADDICTION
    GEOGRAPHY / CARTOGRAPHY
    SOCIAL PSYCHOLOGY / CRIMINOLOGY
    SPECIFICATIONS / CRITERIA

Other authorities which elaborate the RT relationship and provide useful examples are:

1) ERIC Processing Manual (Yes, it's true!) pp 318-321.

2) Barhydt & Schmidt. Information Retrieval Thesaurus of Education Terms. Cleveland: Press of Case Western Reserve Univ., 1968. pp 15-18.

3) Lancaster. Vocabulary Control for Information Retrieval. Washington: Information Resources Press, 1972. pp 80-85 (includes the Barhydt/Schmidt discussion).

4) UNESCO. SPINES Thesaurus. Vol. I. Paris: 1976. pp 42-43.

5) British Standards Institution. Guidelines for the Establishment and Development of Monolingual Thesauri. London: 1979. (BS 5723:1979) pp 11-12.

6) Borko & Bernier. Indexing Concepts and Methods. New York: Academic Press, 1978. pp 29-30.

Not much more has been written on the subject of RTs. Hopefully, all of you have access to several of these sources. They will give you an appreciation and understanding of the complexities of RT relationships. Each of these sources provides somewhat different groupings of RTs, but they should really be considered as subgroupings of the four ANSI categories given above. Some of the other categories of RT relationship are:

- Field of Study & Items Studied
    - CHEMISTRY / ATOMIC STRUCTURE
    - PSYCHIATRY / MENTAL HEALTH
    - SEX EDUCATION / VENEREAL DISEASES
- Near Antonyms (Interactive)
    - DEDUCTIVE METHODS / INDUCTIVE METHODS
    - FAILURE FACTORS / SUCCESS FACTORS
    - MARRIAGE / DIVORCE
    - A Thing & Its Counter Agent
        - RATS / RODENTICIDES
- Cause & Effect
    - DEATH / WIDOWED
    - TEACHING / LEARNING
- A Thing & Its Producing Agent
    - INSURANCE PROGRAMS / RISK
    - POPULAR CULTURE / MASS MEDIA
    - SECURITY (PSYCHOLOGY) / GUARANTEED INCOME
    - VIOLENCE / REVOLUTION
    - Product & Process
        - ORAL HISTORY / INTERVIEWS
        - PHOTOGRAPHS / PHOTOGRAPHY
        - READERS THEATER / CREATIVE READING
        - TECHNOLOGICAL ADVANCEMENT / INVENTIONS
    - Process & Responsible Group
        - AGRICULTURE / FARMERS
        - TEACHING / TEACHERS
- A Thing & Its Recipient or User
    - CHILD WELFARE / NEGLECTED CHILDREN
    - DISTRIBUTIVE EDUCATION / SALES WORKERS
    - SEWING INSTRUCTION / SEAMSTRESSES
- A Thing & Its Purpose or What It Characterizes
    - BIBLIOGRAPHIES / BOOKS
    - LOCAL GOVERNMENT / COMMUNITY SERVICES
    - MARRIAGE COUNSELING / MARITAL INSTABILITY
    - MEAT / FOOD
    - TEACHING MACHINES / PROGRAMED INSTRUCTION

- Having the Same Broad Term & Overlapping Conceptually (sometimes referred to as "siblings"; often used interchangeably)

AMERICAN INDIANS / CANADA NATIVES
PARENTS / FAMILY (SOCIOLOGICAL UNIT)
RETAILING / MERCHANDISING
RHETORIC / SPEAKING

The above categories illustrate the most common RT relationships. No attempt has been made to describe every conceivable type of RT. Lancaster states that "in a sense, every thesaurus term is related to every other thesaurus term at varying strengths of semantic association." Our job, then, as lexicographers is to try to display those terms that are sufficiently closely related to be of obvious benefit to ERIC's indexers and searchers. Put yourself in the place of the users, and try to think of all possible alternative ways from which to approach a given concept.

A SEARCH STRATEGY

We recommend that you do not start by trying to fit the concept you're working on with predetermined RT categories such as the ones described above. Instead, break the concept down into the various ways it can be used or expressed. (For example, BOOKS are written, published, reviewed, serialized, listed in bibliographies, housed in libraries, etc.) Make a list of all potential RTs as you think of them.

Now, look at the definitions and the scope note you developed for the concept, and add key words and phrases therein to your list. Expand your list by looking at other thesauri to see how they express and display your concept. Also, check if the concept appears as an Identifier or in the text of ERIC records. Do full-text and Identifier searches of the file, and examine the indexing terms assigned to the retrieved records. Add to your list those terms that have a close conceptual relationship. You should now have a reasonably complete list of other words and phrases that are available for alternately expressing your concept and for putting it into a proper thesaurus context.

You are now ready to begin structuring your concept with RTs using the ERIC Thesaurus. First, match all terms on your list with existing Descriptors in the Thesaurus. You will have a new list of terms to work from, and your original list of terms may be set aside. From this point on, you're working with legitimate ERIC Descriptors.

Go Descriptor-by-Descriptor in your new list, looking at each existing display. In doing this, you will undoubtedly find other Descriptors that you initially did not consider. Add these to your list and examine their displays as well. The main thing that you'll be trying to decide in this exercise, however, is whether or not your concept fits comfortably in each of the various displays under examination. Consider your concept's hierarchical siblings (other Descriptors from the hierarchy(s) you chose for your concept, especially those at the same hierarchical level) and other Descriptors that are grammatical variations of your concept and its synonyms (e.g., gerunds, adjectival variations, etc.). Do they appear in a given display? If not, your concept probably does not belong there. It's possible, however, that an existing display is inadequate. If this is the determination, then you must recommend not only adding your concept as an RT but all of the parallel terms as well.

On finishing this exercise, you will have a third list of Descriptors which, in all probability, will be your final list of recommended RTs. However, it is usually helpful to go through the list once more to look for conceptual holes. A look at the Rotated Display is helpful here. You may also find conceptual displacements. Ask yourself if broader or less-complex Descriptors (e.g., single-word terms) can adequately express the relationships you want to convey. If you do find conceptual holes or displacements, go to the displays of all additional potential Descriptors and examine them for "fit" before recommending your final list of RTs.

OCKHAM'S RAZOR -- Or the Non-Proliferation Treaty

You may look at your "final" list of RTs and find it to be quite long. If this happens, something probably went wrong with your RT search. It is very important to avoid proliferating RTs since none of us want RT displays to go on ad infinitum.

Often, one RT cross-reference at the broad conceptual level can better express the relationship you want to convey than several more specific references. For example, if HISTORY INSTRUCTION is related to HISTORY, it probably does not also need to be related to UNITED STATES HISTORY, MODERN HISTORY, BLACK HISTORY, etc. But note that in the existing Thesaurus COST EFFECTIVENESS is related both to ACCOUNTABILITY and to EDUCATIONAL ACCOUNTABILITY. You may be saying to yourself, "This is an excellent example of just how subjective RT recommendations can be!" However, take another look. The difference between these examples is based on the following premise: First, an ERIC user (indexer or searcher) would usually not be satisfied nor stop with just the uniterm HISTORY. He/she would, most likely, further pursue the matter and look for more specific terms. On the other hand, a user might be satisfied with ACCOUNTABILITY and pursue the matter no further, never thinking that there might be a narrower term. What this illustrates is that lexicographers must always try to step into users' shoes. Any structuring of RTs without this perspective cannot be totally successful.

Let me try to show through additional examples how we can avoid proliferating the RT field. I will first show an example of simple proliferation and then go on to some interpretive situations.

1) Avoid proliferation. In this example, STUDENT CHARACTERISTICS could conceivably be related to STUDENTS and all of its narrower terms, but a single cross-reference to STUDENTS is all that's necessary.

Not Preferred PART TIME STUDENTS
RT STUDENT CHARACTERISTICS

2) Try to select the proper hierarchical level for your cross-references.

Preferred

INTERINSTITUTIONAL COOPERATION
RT DUAL ENROLLMENT
SHARED SERVICES

Not Preferred

INTERCOLLEGIATE COOPERATION
RT DUAL ENROLLMENT
SHARED SERVICES

INTERINSTITUTIONAL COOPERATION
RT DUAL ENROLLMENT
SHARED SERVICES

3) Try to select a less-complex term, particularly when deciding among several terms in the same alphabetic sequence.

Preferred

VERBAL COMMUNICATION
RT READING

Not Preferred

VERBAL COMMUNICATION
RT READING

VERBAL COMMUNICATION
RT READING MATERIALS

VERBAL COMMUNICATION
RT READING SKILLS

4) Try to determine the tightest conceptual, or most subject-specific, relationship available among several terms.

Preferred

INTERNATIONAL EDUCATIONAL EXCHANGE
RT INTERNATIONAL PROGRAMS
STUDENT EXCHANGE PROGRAMS
STUDY ABROAD

INTERNATIONAL PROGRAMS
RT INTERNATIONAL EDUCATIONAL EXCHANGE

Not Preferred

INTERNATIONAL EDUCATIONAL EXCHANGE
RT INTERNATIONAL PROGRAMS
STUDENT EXCHANGE PROGRAMS
STUDY ABROAD

INTERNATIONAL PROGRAMS
RT INTERNATIONAL EDUCATIONAL EXCHANGE
STUDENT EXCHANGE PROGRAMS
STUDY ABROAD

4) Cont'd

Preferred	COOPERATION RT INTERNATIONAL RELATIONS
	PEACE RT INTERNATIONAL RELATIONS
Not Preferred	COOPERATION RT INTERNATIONAL PROGRAMS INTERNATIONAL RELATIONS
	PEACE RT INTERNATIONAL PROGRAMS INTERNATIONAL RELATIONS

5) Avoid improper or unnecessary slants. For example, PART TIME STUDENTS may be enrolled at all educational levels.

Not Preferred	PART TIME STUDENTS RT ADULT STUDENTS

MINI INDEXES

Now let's examine an opposite situation where proliferation may be useful. RTs can provide browsable indexes to the Thesaurus' most general terms. This is why terms like BEHAVIOR, BLACKS, COLLEGES, COMMUNITY, READING, etc. wind up with long displays. This is particularly helpful to the beginning Thesaurus user who usually has a nominal concept in mind and needs to know the various combinations in which the concept is displayed in adjectival form. One could argue that the Rotated Display could be used for this purpose. But, this proliferation is standard practice in most thesauri. And, anyway, who would want to argue that say COMMUNITY ATTITUDES and COMMUNITY ROLE have a tighter relationship to COMMUNITY than COMMUNITY LEADERS and COMMUNITY SCHOOLS? It is easier and less confusing just to list all such relationships under the broad, most general terms.